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EFFECT OF MUSIC INSTRUCTION ON LANGUAGE DEVELOPMENT OF PRESCHOOL CHILDREN

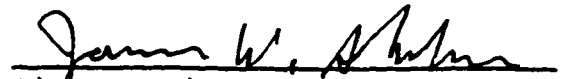
by

Jeanette E. Crosswhite

A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
1996

Approved by



Dissertation Advisor

CROSSWHITE, JEANETTE E., Ph.D. Effect of Music Instruction on Language Development of Preschool Children, (1996) Directed by Dr. James W. Sherbon. 153 pp.

The purpose of this study was to investigate the effects of a sequential program of music instruction on language development, both receptive and expressive language, of preschool children. Subjects were thirty-three three- and four-year-old children from two preschools in the Nashville, Tennessee, area.

Subjects in both intact classes in the study were pretested for receptive language skills using the *Peabody Picture Vocabulary Test-Revised* (PPVT-R) form L and for expressive language skills by the collection of tape-recorded language samples. Following the pretest, one group received planned music instruction by a certified music teacher twice a week over a three month period. The other group received no treatment. At the conclusion of the period of instruction, the PPVT-R, form M was administered to all subjects as a posttest for receptive language, and a second language sample was recorded for expressive language.

Results of the study indicated that language development of preschool children was not influenced by music instruction. The lack of random selection of the treatment site may have influenced the outcome of the research by providing a more supportive environment. The likelihood is, however, that the primary influence in the outcome of the

study was the small sample size which resulted in a lack of statistical power. Whether the outcome was due to small sample size or to the absence of any effect of music instruction on language development was not determined. The study provided a foundational data base for future large sample research investigating the effects of a sequential program of music instruction on the language development of preschool children.

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

Dissertation Advisor _____

Committee Members _____

_____

_____

November 8, 1996
Date of Acceptance by Committee

October 4, 1996
Date of Final Oral Examination

ACKNOWLEDGMENTS

To Dr. James W. Sherbon for his expertise and guidance throughout the entire doctoral process, I am most grateful. I am endebted also to Dr. John Christian Busch, Dr. Randy Kohlenberg, and Dr. Patricia Sink from whom I learned much and without whose assistance this program would not have been completed. The support and encouragement of family members, friends, and colleagues have been invaluable in the completion of this dissertation, and I am deeply grateful. Finally, to my husband, Dean, for being there throughout the entire process, I extend a special expression of love and appreciation.

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CHAPTER I

INTRODUCTION

The education of preschool children has become an important issue in the United States during the twentieth century. The number of children in preschool programs is a part of this issue. Lauritzen (1992) promoted recognition of the need for developmentally appropriate practices in preschool settings as the number of children in preschool programs escalates. She indicated that, according to the federal government, in 1989 there were six million three- to five-year-old children in preschool programs. In 1990, there were 2.8 million three- and four-year-old children from low income families representing more than a third of the nation's three- and four-year-olds (United States General Accounting Office, 1995). According to Palmer and Sims (1993), children from single parent families and from families in which both parents work are the norm in the United States thus elevating preschool education to an urgent status. Working parents need day care for their children thus creating a demand for facilities which, in turn, require development of programs and trained professionals to implement these programs.

In recent years, the federal government has attempted to address the educational needs of the preschool child. In 1965, the government established the Head Start program to serve disadvantaged preschool children (McDonald and Simons, 1989), which was followed in 1975 by the Education for All Handicapped Children Act (PL 94-142). Amendments to the Education for All Handicapped Children Act initiated the infant and toddler program with a 1991 implementation date for preschool programs including three- to five-year-old children. In 1994, congress enacted the Head Start Amendments and the Improving America's Schools Act which amended the Elementary and Secondary Education Act of 1965 (United States General Accounting Office, 1995), both including funding for early childhood programs. The Individuals with Disabilities Education Act (IDEA) was passed by congress in 1990 with amendments in 1991 reauthorizing the infant and toddler program (Schrag, 1993).

According to Frede and Barnett (1992), most government sponsored preschool programs have been founded on the premise that they make an important contribution to children's school success. With this legislated inclusion of preschool children in public educational systems, the need for high quality music education programs matching the developmental levels of the preschool child is accentuated and essential (Andress and Walker, 1992).

Foundation for the Study

Studies determining factors affecting preschool children's use of music include areas of singing ability (Flowers & Dunne-Sousa, 1990; Levinowitz, 1989; Rainbow, 1981), music aptitude (Doxey & Wright, 1990; Flohr, 1981), movement abilities (Metz, 1989), musical preferences (Schuckert & McDonald, 1968), and innate musicality (Pond, 1981). In addition to investigating these factors, music educators have emphasized the need for preschool music education. As early as 1968, participants in the Tanglewood Symposium (Music Educators National Conference, 1968) recognized the importance of music in the lives of three- to eight-year-old children. Included in the Tanglewood report was a recommendation that the Music Educators National Conference (MENC) work with early childhood leaders from other fields to develop appropriate music programs for preschools. In 1986, the MENC committee on standards included in its *School Music Program: Description and Standards* a listing of recommended music experiences and standards for infants, two- and three-year-old children, and four- and five-year-old children. To further aid music educators, MENC published books (Andress, 1989b; Andress & Walker, 1992; Palmer & Sims, 1993; Sims, 1995) offering information and ideas for working with the young child. Additionally, a position statement on early childhood

education was formulated by MENC beginning with the statement that "music is a natural and important part of young children's growth and development" (Palmer & Sims, 1993, p. 71).

National Standards For Arts Education: What Every Young American Should Know and Be Able To Do In the Arts (National Committee for Standards in the Arts, 1994) included kindergarten in all the standards. In *The School Music Program: A New Vision* (Music Educators National Conference, 1994b), the levels were expanded to include prekindergarten standards. In January 1995, representatives of over 100 national organizations including arts, arts education, higher education, business, foundations, museums, and government agencies along with individual artists and educators joining to form the Goals 2000 Arts Education Action Planning Process published *The Arts and Education: Partners in Achieving Our National Education Goals*. While not referring to music apart from the other arts, this group determined that "the arts provide knowledge, skills, and experiences that young children need to grow--physically, emotionally, and intellectually." "Learning in the arts helps young children build the mental framework and cognitive structures that enable them to keep on learning" (Goals 2000 Arts Education Action Planning Process, 1995, p. 10).

Choksy (1988) referred to the preschool years as being important in a child's life and impacting acquisition of knowledge in later years. Further, Choksy stated that the preschool years are a time when children begin using aural-verbal and visual symbols and a critical period for developing listening and singing skills. The focus emerging from these materials was on music skill development in young children. However, published studies regarding the effect of music on development of cognitive skills or, specifically, on language skills in preschool children are limited.

Music and Language Development

Justification

Despite the current interest and activity in the field of preschool music, published research examining the relationship between music instruction and language development at the preschool level is limited. Peery and Peery (1987) suggested a possible model for considering the role of music in the development of the child, but cited only a limited number of published research studies. Additionally, while suggesting that there may be a relationship between listening-perception skills in music and abilities in language development, Peery and Peery recognized the absence of research to support their suggestion.

Graham (1987) in his observations of three- and four-year-old children determined that the processing of

linguistic material in songs is the same as for spoken language. While Graham's study involved teaching a second language, the processes he outlined for acquiring language also are those necessary for learning a native tongue. In a personal interview, Rutkowski (Crosswhite, 1993c) stated that the singing of children whose first language is tonal (e.g., Korean) suffers when English is acquired as a second language, and that when singing, children use only the lower range of the voice. However, studies addressing the implications of this phenomenon are not reported in the literature.

Jalongo and Bromley (1984) contended that song picture books may be used in developing language competence in gifted children, children with language delays or moderate language disorders, and children speaking a dialect. Although the researchers listed possible activities and sources of song picture books, no studies were cited to support their hypothesis that "song picture books can motivate children to listen, speak, read, and write in ways that not only facilitate cognitive growth but also promote general linguistic competence" (p. 844).

According to Kuhmerker (1969), music is a vehicle for learning vocabulary and meaning of text. Kuhmerker maintained that both songs and language have rhythm, emphasis, beginnings, endings, and sequences of events which

reinforce language comprehension skills. In Hawaii, researchers evaluating the musical growth of children involved in programs using the University of Hawaii Preschool Music Curriculum reported an additional music-related finding. Here, classroom teachers involved with the children contended that the music activities aided in promoting language communication. This contention was based on observations of increased use of language among children involved in the music program in contrast to language use of children not involved in the music program (Greenberg, 1974).

Based on observations from his study of music cultures and languages, Garfias (1990) related accent and contour patterns in music to speech and contour patterns in spoken language communication. He concluded that roots of "music structure are inherent and inseparably linked to the structure of spoken language" (p. 100). Andress (1986) addressed the issue of music and language development in an article on early childhood music education in the *Bulletin of the Council for Research in Music Education*. She posed questions regarding the way language development affects a child's ability to sing and whether the words sung are meaningful to the child. Andress emphasized the need for research combining language development and song acquisition.

Purpose of the Study

The objective of this study focused on examining the effect of music instruction on language development in preschool children. This was a foundational study intended to provide a data base that will serve future large sample research specifically designed to study the effects of a sequential program of music instruction on the language development of preschool children. While music is often a part of daily activity in preschool education in the United States, there is a lack of published research relating to music and language development among preschool children. Since language development includes receptive language, the comprehension of verbal material, and expressive language, the production of thoughts in verbal form (Michel & Jones, 1992), both types of language development were examined in this study. Therefore, the purpose of this study was to investigate the effect of music instruction on language development, both receptive and expressive, of preschool children.

Definitions

Language, according to Michel and Jones (1992), is acquisition of words, pronunciations, and methods of combining words and pronunciations in order to be understood by others. Michel and Jones stated that language may be verbal or nonverbal, the latter including facial expressions

and gestures. Further, language may be divided into "receptive" and "expressive" categories, both included in the current study. Receptive language involves decoding and comprehension of verbal material while expressive language involves production or formulation and expression of thoughts in verbal form (Michel & Jones, 1992; Boehm, 1992b). In addition, Rudenberg (1985) defined receptive language as "language that is spoken or written by others and received by an individual" (p. 91). Pease, Gleason, and Pan (1993) defined expressive language as speaking a word at an appropriate time and place.

The National Association for the Education of Young Children (NAEYC) defined the age for "early childhood" as birth through age eight (Bredekamp, 1987). The term "preschool," used in this study, provides a more limited range and includes infant to kindergarten levels. To meet the research objectives of this study, however, the age for "preschool" children was limited to a range of three years and six months to four years and eleven months.

"Music instruction" refers to a series of music lessons designed and presented in a developmentally appropriate manner and in a sequential pattern. Instruction includes singing, both individually and in a group; playing a variety of instruments; listening to songs sung by others, to instruments, and to recorded selections; and moving in

response to music. "Sequential instruction" is defined as approaching teaching in a step-by-step sequence beginning at the child's level of achievement and progressing from that point. According to Campbell and Scott-Kassner (1995), sequential instruction means beginning where the child is and moving from the familiar to the unfamiliar.

"Developmentally appropriate" is a term inclusive of ages, abilities, and setting of a group of children as well as individual differences within a group. According to NAEYC (Bredekamp, 1987), developmentally appropriate involves two dimensions, age appropriateness and individual appropriateness. Age appropriateness recognizes the predictable sequences and changes in all areas of development while individual appropriateness acknowledges the uniqueness and individual patterns of development of each child. At the preschool level, developmentally appropriate includes children interacting directly with the subject matter. The curriculum must be "hands-on, providing many opportunities for children to make and respond to music" (Sims, 1995, p.1). The MENC position statement on early childhood music education maintained that music education for young children should involve a "developmentally appropriate program of singing, moving, listening, creating, playing instruments, and responding to visual and verbal representations of sounds" (Palmer & Sims, 1993, p. 71). MENC's position

further supported a "developmentally and individually appropriate" approach to music instruction (Palmer & Sims, 1993, p. 72).

Andress (1980) determined that a successful music curriculum at the preschool level must reflect the research on how children learn. She reviewed the theories of Piaget, Bruner, and Montessori relating these theories to music instruction at the preschool level. Campbell and Scott-Kassner (1995) related a hands-on approach to music instruction at the preschool level to Piaget's pre-operational stage of development. Piaget observed that children go through four stages of cognitive development. These stages are sensorimotor (ages birth to two years) in which learning takes place through sensory experience, pre-operational (ages two to seven years) in which learning occurs through manipulation of objects, concrete operations (ages seven to eleven years) in which objects are viewed in concrete, tangible, and systematic ways, and formal operations (ages eleven through adulthood) where abstract learning takes place using logic and deductive reasoning. The second of these stages, according to Campbell and Scott-Kassner, is related to preschool music instruction.

In *Music In Prekindergarten: Planning and Teaching* (Palmer & Sims, 1993), McDonald and Sims addressed goals of a music program and guidelines for instruction in terms of the

musical characteristics of the preschool child while Scott-Kassner outlined those characteristics. McDonald and Simons (1989) presented extensive information on developmental and musical characteristics of preschool children.

The Study

The current study sought to determine if receptive and expressive language skills differed between children who received music instruction and those who did not. Music is part of most preschool programs. Whether a planned program of music instruction that is based on a child's developmental processes affects language development in preschool children, however, was not known and could influence future programs of music instruction in preschool settings. Results of the study provided additional data regarding the role of music in the life of the preschool child. Specifically, the results provided data regarding the effects of music instruction on language development of the preschool child.

CHAPTER II

RELATED LITERATURE

Preschool Children

Much has been written in recent years on the subject of preschool children. Researchers in this area have investigated various factors, including those of behavior and education as related to different age levels of preschool children while identifying and labeling characteristics of children and attempting to determine appropriate teaching strategies. The National Association for the Education of Young Children (NAEYC) (Bredekamp, 1987) published a list of "development milestones of children" including areas such as motor milestones and eye-hand skills, language development/communication, physical, spatial and temporal awareness, purposeful action and use of tools, and expression of feelings. Each of the milestones listed here can be addressed through music education. The association also determined guidelines for appropriate practice in areas of curriculum goals, teaching strategies, guidance of social-emotional development, language development and literacy, physical development, and aesthetic development.

Spodek, Saracko, and Davis (1987) related a young child's cognitive development to Piaget's developmental

stages. They then listed characteristics, interests, and needs of preschool as well as kindergarten and first grade children in cognitive, affective, and psychomotor domains including music as a factor in early movement development in children. Based on the theories of Piaget, Vygotsky and Erikson as well as research in oral language acquisition and developmental play, Lauritzen (1992) advocated a process approach to education of young children. She contended that implementation of such an approach could lead to developmentally appropriate practices in early childhood education.

Additionally, state departments of education have addressed the issue of young children. According to a 1990 report (Cooper & Eisenhart) including all fifty states plus the District of Columbia, nineteen states have prekindergarten teacher certification while eight additional states offer prekindergarten endorsements. Five other states have kindergarten certification and six, kindergarten endorsements, leaving only thirteen states with no teacher certification or endorsement below the first grade level.

From the work briefly described above, it is obvious that the focus of attention among researchers and educators is currently on development, education, and treatment of preschool children. A summary of studies related to the current research follows.

Singing Ability and Pitch Discrimination

Considering the areas of singing ability and pitch discrimination skills of preschool children, Flowers and Dunne-Sousa (1990) studied range and pitch accuracy in the singing of 93 three-, four-, and five-year-old children. Using echo patterns, a familiar song, and a taught song to test children individually, Flowers and Dunne-Sousa found that the children were most accurate in pitch and used larger vocal ranges when singing echo patterns. Additionally they found that, although children compressed singing ranges, started on pitches other than the one given, and modulated while singing familiar songs, melodic contour was maintained. Morrongiello, Trehub, Thorpe, and Capodilupo (1985) examined four- to six-year-old children's ability to accurately discriminate changes in melodic contour. According to Morrongiello et al., children more accurately identified changes in melodic contour when pitches were rearranged than changes in pitches when the melodic contour remained unchanged.

Jordan-DeCarbo (1989) studied pitch discrimination ability and the effects of pretraining and age on this ability. Three-, four-, and five-year-old children were randomly placed in three groups for pretraining sessions. Using material based on four, three-note tonal patterns, children in group one responded to same/different patterns;

in group two, repeated patterns; and in group three, listened as they played with small toys. Children in all conditions responded to same/different in the posttest, an aural discrimination measure consisting of thirty-two pairs of patterns. Jordan-DeCarbo found no significant effect of pretraining on pitch discrimination of same/different tonal patterns.

In a study involving thirty-five preschool children in two classes, Levinowitz (1989) investigated children's ability to sing songs with words and without words as well as the relationship between the ability to sing a song and language development. Music instruction was provided for five months prior to testing and included the teaching of two criterion songs in the fifth month. Levinowitz determined that preschool children sing more accurately songs learned without words than songs learned with words. The correlation between both tonal and rhythm singing achievement and language development in this study was, however, very low. The researcher suggested that preschool children may use two different processes to learn a song with words; one to learn melody and a different process to learn the words. The Levinowitz study, however, substantiated Rainbow's (1981) finding in a three-year study of three- to five-year-old children that words were not a deterrant to children's accurate performance of rhythm. Rainbow found that the most

effective sequence of mastering rhythms began with chanting rhythm syllables, followed by saying speech patterns, and then clapping. Goetz and Horii (1989) concluded that children sing more accurately alone than in groups and that girls sing more accurately than boys.

Additionally, singing ability was found to be affected by age (Flowers & Dunne-Sousa, 1990; Goetz & Horii, 1989; Levinowitz, 1989; Rainbow, 1981). Ramsey (1983) found an age effect as well as a singing ability effect on melodic perception in preschool children. Testing auditory perception of absolute pitch level, tonal center, melodic rhythm, melodic contour, and melodic intervals in three-, four-, and five-year-old children, Ramsey found a significant age effect. His study showed that high-ability singers scored higher than did low-ability singers. There was not, however, a significant difference in melodic perception between instrumental and noninstrumental groups. Webster and Schlentrich (1982) found an age effect on pitch direction discrimination in preschool children. Working with four- and five-year-old children in two nursery schools, the study investigated children's ability to discriminate pitch direction using three response modes. These modes were nonverbal, gestural, and performance-based. Results indicated that nonverbal, performance-based response modes were most natural for young children.

In a study of motoric music skill development in young children ages three to six years, Gilbert (1981) concluded that the degree of improvement found from year 1 to year 2 indicated a need to assess musical skills early and enhance the development of these skills in early childhood education. While her study was limited to emphasis on striking skills in an instrumental music setting, Gilbert suggested that further research should examine stability of these skills and their relationship to other musical skills.

The studies discussed above addressed music skills of preschool children and offered information for the development of the instructional segment of the current study. However, with the exception of Levinowitz, these studies did not address the relationship between music instruction and language development. The following studies considered the relationship of music to the areas of cognition and communication.

Music Cognition and Communication

Serafine (1988) in arguing that a cognitive domain is one in which the principal criterion of goodness is in organization, contended that what one thinks determines what one perceives. Serafine further contended that music cognition results from normal cognitive growth and everyday musical experiences of children. His research aligned music

with a cognitive rather than a sensation/perception domain and related it to normal cognitive growth.

Doxey and Wright (1990) concluded that "music could be viewed as a developmental skill that can facilitate cognitive and creative abilities" (p. 438). Their conclusion was the result of a study examining the relationship between children's musical ability and the physical and social environments of home and school as well as child characteristics of creativity and cognition. Subjects were 60 four- to six-year-old children and their parents. All children were a part of a university child development center and were tested for musical ability using Gordon's *Primary Measures of Musical Aptitude*. Other tests included the *Thinking Creatively in Action and Movement* for creativity and *Metropolitan Readiness Test*, Level 1, for cognitive ability. In addition, teachers rated children on musicality and parents completed a questionnaire on the home music environment. School environment and music interest were evaluated by observational procedures. Doxey and Wright found a significant positive relationship between music aptitude and the father's attitude and encouragement. There also was a significant positive relationship between music aptitude and child characteristics of cognitive and creative ability.

Tillman (1989) examined children's compositions and developed a spiral of musical development beginning with a mastery level from birth to age four in which the child is concerned primarily with the sounds instruments can make. At approximately the age of four years, a child begins to manipulate materials in order to control sounds. Wolfe and Gardner (1980) referred to levels of artistic development listing the level from birth to eighteen or twenty-four months as a time when the child is a director/communicator acting on the world. From eighteen months to five or seven years, a child is a symbol user. Creation and reading of these artistic symbols are gained by discovery through play. What is the effect of active "musicing" on musical/cognitive as well as general intellectual development of the young child is one question posed by Scott and referred to by Scott-Kassner (1992). Additionally, Scott asked how active "musicing" is related to growth in language and what the role of language should be in music instruction. Results of investigating the effect of music instruction on language development in the current study provided some insight into the relationship of music and language.

Language Development

According to Michel and Jones (1992) and Boehm (1992b), language is divided into receptive and expressive components with receptive language described as comprehension of

language used by others and expressive language as verbal production of language. Lichtenstein (Lichtenstein & Ireton, 1984) also determined that language functioning involves these two components, receptive and expressive. His definition of the receptive language function, however, was decoding and comprehension of verbal material with the expressive language function involving formulation and expression of thoughts in verbal form. According to Lichtenstein, development of expressive language skills normally lags behind comprehension skills. Pease, Gleason, and Pan (1993) concurred with Lichtenstein's belief that expressive language does not develop as early as receptive language.

Hoffman (1992) concluded that language development is a continuous process that is aided by an environment geared to the child's way of learning and that is focused first on meaning. Further, she contended that for language to enhance thought, the child must be encouraged to talk. There also must be a response to the child and recognition of the value of the child's language. Loban (1973) in a longitudinal study of language development involving 388 subjects over a 13 year period found a pattern of steady chronological development of language. According to Brown (1973), the order of progression in knowledge of language is invariant across children learning the same language. The rate of

progression, however, varied greatly. He contended that environment and general intelligence are factors in determining the rate of progression. Loban (1973) found that subjects whose language use positively impressed teachers produced longer communication units with resulting higher mean length of utterance (MLU) scores. According to Tager-Flusberg (1993), linguistic maturity is measured by mean length of utterance. He observed that, as children get older, their sentences become longer. Children, however, develop at different rates causing age itself to be an unreliable predictor of language development. Bohannon (1993) reviewed theoretical approaches to language acquisition and concluded that, despite research, "children's progress to language maturity will continue to seem mysterious" (p. 284).

Literature concerning expressive language refers to communication units, mazes, and mean length of utterance with MLU most commonly referenced. The mean length of utterance was defined by Brown (1973) and by Tager-Flusberg (1993) as the average length of a child's sentences while Loban (1973) preferred a definition regarding the average number of words per communication unit. Loban referred to Watts's definition of a unit as "a group of words that cannot be further divided without loss of their essential meaning" (Loban, 1973, p. 105). A maze, as used in the literature, is a series of

words or parts of words which do not make up a communication unit and are not a necessary part of it. They may vary in length and are not included in communication units or in calculations of the MLU. However, according to Loban, the number of utterances (words) in the mazes is added to the number of utterances in the units to produce the total number of utterances. These terms do not apply to receptive language which is the comprehension of verbal language.

A few studies in the literature related music and language development. While considering musical aptitude as it relates to spatial and verbal ability, Karma (1982) determined that children process all audible material verbally. Karma then posed the question of how a lack of auditive structuring ability would affect linguistic development in children. Kuhmerker (1969) stated that music is a vehicle for learning vocabulary and meaning of text. She suggested that, since language is a multisensory experience, music can aid in language development by intensifying the language experience. As in language, songs have rhythm, emphasis, and beginnings and endings as well as a sequence of events all providing a source for reinforcing comprehension skills.

In contrast to Kuhmerker, Levinowitz (1989) found little correlation between tonal and rhythmic singing achievements and language development. The *Peabody Picture Vocabulary*

Test, however, is a test for receptive language, and expressive language was not addressed. Since the current study addressed the effects of music instruction on both receptive and expressive language, the research subsequently reviewed presents foundational material for the study of the relationships between music and both receptive and expressive language.

Receptive Language

Van Zee (1976) investigated kindergarten children's descriptions of music, finding that verbal description of music information was difficult for them. Performance responses, however, revealed that the children understood terminology they were unable to verbally describe. Hair (1977) also found that first grade children were more accurate in responding by means of performance than by verbalization. She investigated children's ability to discriminate tonal direction verbally and nonverbally. For verbal discrimination, children were asked to provide verbal descriptions of the tonal direction of the paired tonal patterns. In nonverbal discrimination, children listened to tonal patterns played by the investigator and matched them by playing the patterns on resonator bells. Hair found that children scored significantly higher on the nonverbal tasks than on the verbal tasks.

Similarly, Webster and Schlentrich (1982) found that children responded more accurately using a performance-based mode, although the latter researchers urged caution in assuming that most children can discriminate pitch direction even when using the correct mode of response. The work of Hair and of Webster and Schlentrich supported Lichtenstein's (Lichtenstein & Ireton, 1984) contention that receptive language develops more quickly than expressive language. Likewise, Sloboda (1985) contended that receptive skills precede productive skills in both language and music. McMahon (1982) suggested that one reason young children have difficulty in verbalizing responses to auditory stimuli is in the language itself. Words such as "high" and "low" often are used in relation to space as well as to pitch and may be confused with "up" and "down" when these terms are used to indicate volume level. Hair (1987b) contended that the major problem in research studies with young children is with language, not in children's ability to discriminate musical concepts.

Expressive Language

One area of development that may affect the young child's use of language was expressed in Gardner's (1991) "U-shaped curve of development." On this curve, the child proceeded from an unconscious performance to a conscious period in which the child may exhibit confusion relating to

the use of a procedure or term before moving to a stage of confident knowledge. According to Gardner, this curve of development is true in many areas of development including language and the arts.

Children construct tonal relationships in very ordered, if not expected, ways. According to Davidson (1985), a very strong parallel exists between the way in which tonal relationships are constructed and the construction of language patterns since research in language acquisition also has revealed unexpected patterns. Such parallels may have implications for the way in which both music knowledge of children and the teaching of music are considered by researchers and educators.

The University of Hawaii Preschool Music Curriculum (Greenberg, 1974), for which the *Preschool Music Achievement Test* (PMAT) was constructed, was first implemented in 1970-1971. Using the PMAT to measure musical growth of children engaged in Preschool Music Curriculum recommended activities, researchers concluded that an organized approach to music experiences produced a marked improvement over a more "haphazard" approach and that preschool children can respond to cognitive aspects of music when a planned sequential curriculum is followed. In addition to musical growth, teachers involved in the study reported that music activities aided language communication in that the children involved in

the program were more advanced than others in the daily use of language.

Between the ages of two and seven, children become acquainted with and begin to master cultural symbols (Bolen, 1989). Thus, Bolen suggested the need for more experience with cultural symbols at this early age in a learning environment that includes the whole child. He concluded that the arts provide a means for exploring and developing areas including description, organization, and expression and that early childhood educators have recognized the importance of the arts and attempted to include them in each day's schedule. Although the importance of the arts generally has been recognized by early childhood educators, the current study was based on the premise that planned instruction, in music specifically, contributes to language development in preschool children.

Evaluation

The National Association for the Education of Young Children's (NAEYC) position statement on developmentally appropriate practices for serving children birth through age eight (Bredekamp, 1987), followed by its position statement on standardized testing of young children ages three through eight adopted in 1987 (NAEYC, 1988), appears to have ushered in an era of concern regarding testing and evaluation methods and materials. This position statement on testing for early

childhood "restricts the use of tests to situations in which testing provides information that will clearly contribute to improved outcomes for children" (p. 26). Further, it states that

> given the scarcity of resources, the intrusiveness of testing, and the real potential for measurement error and/or bias, tests should be used only when it is clear that their use represents a meaningful contribution to the improvement of instruction for children and only as one of many sources of information (p. 47).

Bredekamp and Shepard (1989), while reviewing the research findings upon which NAEYC based its position statement, suggested that some standardized tests can be helpful in developing instructional procedures especially when applied to individual children.

Often informal means of assessment are more appropriate and provide more assistance to teachers (Cazden, 1981; Teale, 1988; & Teale, 1990). These means may include observations, checklists, and rating scales. Researchers including Strickland and Morrow (1989) and Teale (1988) have recommended performance sampling as one of the most appropriate means of assessment in the area of language development. While both of these authors referred to literacy, performance sampling could easily apply to other areas and was used by Tillman (1989) in the field of music to evaluate children's music compositions.

According to Fields and Hillstead (1986), many inappropriate teaching techniques that often result in children's failures in school could be avoided by the use of classroom observations and by allowing children "to progress without pressure or fear of failure" (p. 27). Leavitt and Eheart (1991) stressed that, whatever evaluation measurement is used, it should help monitor the child's growth and development comparing results only with the individual child's former evaluation and not that of any other child.

Restatement of Purpose and Null Hypotheses

The primary purpose of this study was to investigate the effect of music instruction on the language development of preschool children including both receptive and expressive language. Receptive language involves comprehension of language used by others, whereas expressive language involves the verbal production of language (Michel & Jones, 1992; Boehm, 1992a). The independent variable was instruction, music or no music. The following null hypotheses were tested:

1. There will be no significant effect of music instruction on receptive language development.
2. There will be no significant effect of music instruction on expressive language development.

This was foundational research intended to provide a data base that will serve future large sample research specifically designed to study the effects of a sequential

program of music instruction on the language development of preschool children.

CHAPTER III

PROCEDURES

The principal objective of the research was to determine if music instruction had an effect on language development of preschool children. This was foundational research intended to provide a data base that will serve future large sample research specifically designed to study the effects of a sequential program of music instruction on the language development of preschool children.

The subjects were 33 three- and four-year-old children from the State Employee Child Care Center and the Vanderbilt Child Care Center in Nashville, Tennessee. All subjects were pretested in receptive and expressive language using the standardized test *Peabody Picture Vocabulary Test-Revised* form L (Dunn & Dunn, 1981) (PPVT-R) and language sample analysis (Loban, 1976), respectively. Treatment for the study was music instruction designed for the subjects in a developmentally appropriate manner and included singing, moving, listening, and instrument playing. The treatment was administered by the researcher, a certified music teacher, to subjects at the State Employee Child Care Center and occurred twice a week over a three month period. Subjects at the Vanderbilt Child Care Center served as a control group and

did not receive treatment. At the end of the treatment period, all subjects were posttested in receptive and expressive language. Receptive language was evaluated using the PPVT-R form M and expressive language using a language sampling procedure. Data were analyzed using three one-way analyses of variance. The independent variable was music instruction and the dependent variables were receptive and expressive language performance.

Study Sites

Site Selection

The study was designed to investigate the responses of children of preschool age. Therefore, preschools in the Nashville, Tennessee area were surveyed for potential study sites. Sites considered were limited to the Nashville geographical area, and preschools associated with public schools were considered first. While private preschools are listed in the telephone directory and public school preschools are included in each system's school list, information as to which schools might be potential sites was gained by consulting local leaders in the area of early childhood. Telephone calls to one site often provided information about characteristics of other sites regarding ages of children, number of children, presence of a music instructor, or type of program. After six potential sites were identified, visits were made to these sites, and

interviews conducted with the center directors. The list was then analyzed to identify two comparable groups of approximately fifteen children each meeting the following predetermined specifications: (a) enrollment of three- and four-year-old children, (b) similar programs in organization and philosophy, and (c) no music instructor or music instructional program.

Site Description

Following site visits and interviews, two sites meeting the predetermined specifications were selected for this study. They were the State Employee Child Care Center (N = 18) serving children of Tennessee state government employees and the Vanderbilt Child Care Center (N = 15) caring for children with one or both parents employed by Vanderbilt University. Both schools were accredited by the National Association for the Education of Young Children (NAEYC) and enrolled children from infancy to kindergarten age. Classes at both schools were divided according to age and were integrated programs including both handicapped and nonhandicapped children. Each school contained an established class of three- and four-year-old children both being selected for the study. There was no music specialist in either school although classroom teachers included similar music activities on a limited basis at each school.

Subject Profiles

Subjects for this study were 33, three- and four-year-old children. Subjects at the State Employee Child Care Center served as the experimental group while subjects at the Vanderbilt Child Care Center served as the control group. The choice of the State Employee Child Care Center as the experimental group was made on the basis of a request from the center to receive the instruction. This self-selection by the State Employee Child Care Center was recognized for the possibility of creating a bias by representing a more supportive environment than the Vanderbilt site. However, based on the similarity of sites and the enthusiastic response to the study by both sites, this factor was considered to be of little influence in the outcome of the study. The experimental group received treatment which was the program of music instruction, and the control group received no treatment.

At the beginning of the study, a consent form and a cover letter containing information about the study (Appendix A) were sent to parents. Additionally, the director of the State Employee Child Care Center requested a meeting with the researcher and parents so that questions could be addressed when the consent forms were distributed. A questionnaire (Appendix B) was developed by the researcher for purposes of assessing the home music environment of each child at the

beginning of the study and was sent to parents following signing of the consent form. The expectation was that information from the questionnaire might provide insight into reasons for any extreme score deviation in the analysis of the data. Parental consent forms and questionnaires were returned to the sites and were filed for reference.

The final number of subjects was seventeen in the experimental group and thirteen in the control group for a total of thirty subjects. This number was a result of the departure of one child from each school and insufficient command of the English language by another child. At the beginning of the study, subjects in the experimental group ranged in age from three years and nine months to four years and nine months with the exception of one subject who was five years and one month. Subjects in the control group ranged in age from three years and five months to four years and ten months of age (Table 1). The age difference of several months between the groups posed a possibility of bias. Since the median age of the two groups, however, differed only by two months (Experimental = 4.3; Control = 4.1) and considering the range in maturity levels demonstrated by subjects in both groups, this age difference was not considered great enough to be a major influence on the outcome of the study. The gender distribution of the experimental group was eight females and nine males while the

control group included seven female and six male subjects (Table 2).

Table 1
Beginning Age

	3.5-6	3.7-8	3.9-10	4.0-1	4.2-3	4.4-5	4.6-7	4.8-9	4.10-11	5.1
Experimental			2	4	3	2	1	4		1
Control	2	1	2	2	1	2	2		1	

N = 30

Note. Ages listed in years and months (e.g., 3.5-6 = three years and five to six months)

Table 2
Gender

	Female	Male
Experimental	8	9
Control	7	6

N = 30

Ethnicity of the experimental group was Caucasion (N = 14), African-American (N = 1), Asian-American (N = 1), and Arab-American (N = 1). In the control group, subjects were Caucasion (N = 12) and Hispanic (N = 1)(Table 3).

Table 3
Ethnicity

	Caucasian	African-Amer	Asian-Amer	Arab-Amer	Hispanic
Experimental	14	1	1	1	
Control	12				1

N = 30

While the final number of subjects is recognized as small for a statistical study in terms of possessing sufficient power to provide statistical significance and generalizability of the results, the number was consistant with studies in the related literature involving preschool children and studies dealing with language samples (Levinowitz, 1989; Flohr, 1981; Hair, 1993; Harding & Ballard, 1982; Buysse & Bailey, 1993; Rauscher, Shaw, Levine, Nye, & Wright, 1994). The objectives of the current research account for the small number of subjects. This study, therefore, provides a data base to serve future large sample research specifically designed to study the effects of a sequential program of music instruction on the language development of preschool children.

Evaluation

Evaluation Procedures

Two types of evaluation procedures were used for data collection. The *Peabody Picture Vocabulary Test-Revised*

(Dunn & Dunn, 1981) (PPVT-R) was used to evaluate subjects' receptive language development and language sample analysis (Loban, 1976) was used to evaluate subjects' expressive language development. Receptive language involves comprehension of language used by others, whereas expressive language is described as the verbal production of language (Michel & Jones, 1992; Boehm, 1992b). These evaluation techniques provided pretest and posttest scores for this study.

While other standardized tests exist, an investigation of other tests and conferences with early childhood researchers (Crosswhite, 1993a, 1993b) led to the determination that the PPVT-R was the most appropriate means of measuring receptive language development at the age of the children involved in this study. The PPVT-R was designed to be used with children as young as two years and six months of age up to nineteen years of age. Although Dunn and Dunn stated in the test manual that the PPVT-R may be used with persons up to forty years of age, the data provided for use with ages past eighteen years and eleven months are scant. Two forms of the test (L and M) were designed for test-retest purposes. The test manual reported both split-half reliability coefficients and alternate-forms delayed retest reliability coefficients (Table 4).

Table 4
Reliability Coefficients

	Split-Half			Alternate-Forms
Ages	Form L	Form M	*Ages*	Delayed Retest
3.0-3.5	.78	.82	3.0-3.11	.77
3.6-3.11	.80	.79		
4.0-4.5	.71	.74	4.0-4.11	.77
4.6-4.11	.70	.74		
5.0-5.5	.79	.78	5.0-5.11	.58

Note. Ages are listed in years and months (e.g., 3.0-3.5 = three years through three years and five months)

While standardized tests for expressive language were available, a review of the NAEYC guidelines (1988) and of other studies (Gleason, 1981; Strickland & Morrow, 1989; Teale, 1988) as well as the results of conferences between the researcher and early childhood specialists (Crosswhite, 1993a, 1993b) supported analyzing subjects' language samples as the most appropriate means of evaluating expressive language. Picture books, selected with the assistance of two librarians, were used as the stimulus in the language sample. These librarians were responsible for children's divisions and children's programs in two public libraries in east Tennessee. One criterion in making these selections was to require large attractive illustrations with distinct lines and clear colors. Other criteria were the presence of minimal texts and texts that did not interfere with the

illustrations. In addition, selection of the books included the requirements that the content was not lengthy, they could be handled easily in a physical manner by the child, and that they be related to something in a child's experience. All of the books in this study were about animals.

In the evaluation of expressive language, language samples of children were tape-recorded and transcribed for analysis. The analysis resulted in tabulations of units (sentences), utterances (words within units), mazes (words not part of a unit), and utterances within mazes. From these tabulations the mean length of utterance and total number of utterances were derived for statistical analysis.

Mean length of utterance (MLU) was defined by Brown (1973) and reitereated by Tager-Flusberg (1993) as the average length of a child's sentences. Loban (1973) preferred to define MLU as an average number of words per communication unit. He referred to Watts's description of the unit as "a group of words that cannot be further divided without loss of their essential meaning" (Loban, 1973, p. 105). A maze according to Loban is a series of words or parts of words which do not make up a communication unit and are not necessary to it. They may vary greatly in length and are not included in the communication units or in calculation of the MLU. However, the number of utterances in the mazes

is added to the number of utterances in the units to produce the total number of utterances.

Administration of Evaluation

Both tests were administered as pretests and as posttests. The *Peabody Picture Vocabulary Test-Revised* (Dunn & Dunn, 1981) was administered according to procedures provided in the test manual. This receptive language test required only a single response from the children. While looking at four pictures, the child was asked to point to the picture that corresponded to the word spoken by the test administrator. These responses were recorded on the child's score sheet. Two forms of the PPVT-R, designed for test-retest purposes, were used in the current study by administering form L for the pretest and form M for the posttest.

To evaluate expressive language, the researcher recorded a language sample using a sixty-minute cassette tape and tape recorder identifying subjects on the tape by site and number. This sample consisted of comments and descriptions made by the child while looking at unfamiliar picture books. These books were *Teddy Bear, Teddy Bear* (Hague, 1993), a book based on the children's rhyme of the same name and *Just Like Jasper* (Butterworth & Inkpen, 1989). This language sampling procedure was in accordance with the NAEYC emphasis on using developmentally appropriate procedures for assessment.

Testing procedures required approximately an hour individually spent with each child. The hour was divided into two segments for receptive and expressive language tests, respectively. Pretesting was conducted by the researcher at the schools prior to treatment. Scoring of PPVT-R tests for receptive language was conducted in accordance with instructions in the test manual. The starting point for each child was determined by chronological age. From this point, testing proceeded through a basal which was the highest group of eight consecutive correct responses and continued until a ceiling (lowest group of eight consecutive responses containing six errors) had been reached. The total number of errors between the basal and the ceiling was subtracted from the ceiling item number to produce a raw score.

Tapes of expressive language samples were transcribed by the researcher using guidelines outlined by Loban (1976) and confirmed in consultation with Rebecca Isbelle, a professor at East Tennessee State University with expertise in transcribing and evaluating language samples (Crosswhite, 1993b). Transcriptions were made separating each communication unit. Mazes were placed as they occurred in the transcript but were bracketed to indicate that they were not included in the unit. When the transcript was evaluated, the analysis was recorded to the left of each unit. The

number of utterances (words) in the unit was recorded beside the number of utterances that occurred in a maze with the maze number being bracketed. Some responses were counted as two (e.g., "don't" for "do not") or more (e.g., "dunno" for "I do not know") utterances. At the end of the transcript, the number of units was totaled as was the number of utterances within units. In addition, the total number of utterances in mazes was recorded. To find the mean length of utterance (MLU) for the transcript, the number of utterances in units was divided by the number of units. To obtain the total number of utterances, the number of utterances in units was added to the number of utterances in the mazes. Transcripts representative of low, middle, and high scores on both pretest and posttest are provided in Appendix D.

Two educators, one in music and one in language arts, were trained by the researcher in the procedures to be used and evaluated the transcriptions of the tapes. Coefficient alpha (Boyle & Radocy, 1987) was used to determine interjudge reliability. Final scores for each subject were determined by obtaining the average of the scores of the two judges.

Posttest proceedings were the same as for pretesting using the alternate form M of the PPVT-R designed for test-retest purposes (Dunn & Dunn, 1981). Books used for language samples in the posttest were different from those in the pretest to control for familiarity. The picture books in the

posttest were *Dinosaur Roar!* (Strickland & Strickland, 1994) and *Come Out and Play, Little Mouse* (Kraus, 1987).

Treatment

Treatment consisted of music instruction administered two times a week for a three month period of time. The experimental group received the treatment, and the control group received no treatment.

The instructor for the treatment was the researcher, an experienced teacher with current certification in K-12 music in the state of Tennessee. Instruction occurred on Tuesday and Thursday mornings during the months of February, March, and April, 1995, for a total of twenty-three lessons (Appendix C). Each lesson was planned for a twenty minute period.

Instructional Objectives

Instructional objectives for this study were based on the MENC position statement on early childhood music education (Palmer & Sims, 1993), national standards in music for prekindergarten children (Music Educators National Conference, 1994a), writings of preschool music educators (Andress, 1980; Andress & Walker, 1992; Palmer & Sims, 1993; and others), and the researcher's investigation of literature regarding preschool children and teaching experiences. Basic objectives of the instruction included explorations in

keeping a steady beat, hearing and producing high and low sounds, matching pitches, listening, playing instruments, and moving in both a structured and an improvised manner. These objectives were addressed in a variety of ways as indicated in the lesson plans (Appendix C) including activities in singing, listening, instrument playing, and moving.

Materials, Lesson Format, and Instructional Procedures

Materials

Instructional materials included songs, vocal direction charts, foam balls, slinkies, step bells, resonator bells, hand drums, log drum, mallets, and an autoharp with a rubber doorstopper for strumming. Additionally, several recordings on compact disk and cassette tape, CD/tape player, a number of children's books, and stuffed animals as well as pictures to accompany "Ballet of Unhatched Chicks" (Mussorgsky, grade 1, CD 2, track 6), were materials used in the treatment.

Lesson Format

All lesson plans were designed by the instructor to explore basic music concepts as stated in the music standards for preschool children (Music Educators National Conference, 1994a). Lessons began with a greeting time providing interaction between the teacher and each individual child. This transition time which was not detailed in the lesson plans led to a review of the previous lesson prior to the

instruction of the new lesson. The instruction was primarily teacher-directed including limited time for free exploration of singing, moving, listening, and playing instruments. Following the instructional period, the teacher presented a preview of the next lesson before dismissing the children.

Instructional Environment and Experiences

Instruction occurred in the area of the classroom in which the children had circle time (the time in which the entire group was together for daily activities). This area was marked by a carpet on which each child had an assigned individual space. The instructor joined the children on this carpet.

All of the activities were designed to teach music concepts in accordance with the objectives specified above and in a manner appropriate for the preschool child. Each child was provided individual and group opportunities to explore and to perform.

Steady Beat. The ability to maintain a steady beat was addressed in a variety of ways throughout the treatment period. Activities included primarily parallel motion at one level (e.g., both hands tapping knees, shoulders, or head) but proceeded to exploration of two levels (e.g., knees and toes or shoulders and head) and alternate motions when the children demonstrated an ability to go beyond the expected

parallel motion. These activities followed a progression from parallel to alternate and from stationary to locomotor motion. Other beat activities involved tapping foam balls and playing hand drums. Both the hand drum and step bells added an auditory dimension to keeping a beat.

High/Low. A number of activities were used to enable the children to respond by singing. Vocal explorations included creation of wind and ghost sounds as well as imitation of the instructor's voice. Following this exploration, children vocally imitated simple line charts and manipulated slinkies to show upward or downward direction. Additionally, movement was used to show high and low. Step bells combined sight and sound as children watched the mallet being moved up or down the steps simultaneously with the ascending or descending sound. This was followed by vocal imitation of the sounds made by the step bells. With the story of Mortimer (Munsch, 1985), children sang both ascending and descending lines as characters in the story went up and down stairs. Many of the children accurately matched the five pitches (do, re, mi, fa, sol) played on the bells to accompany the ascending and descending movement of the characters in the story. Related to this activity, each child was provided an opportunity to play the bells while the other children sang; thus combining high/low, pitch matching, steady beat, and instrument playing.

Pitch Matching. In early lessons, each child was asked to echo the child's name on pitches of sol, mi. Some children matched the pitches while others sang the correct interval but at a lower pitch, and still other children simply spoke. Pitch matching improved with vocal exploration and use of different types of voices (singing, speaking, whispering, and shouting). Additionally, pitch matching was reinforced in such activities as singing the animals' names with the story "Brown Bear, Brown Bear" (Martin,1992) and singing an ascending and descending pattern with the story of Mortimer (Munsch, 1985).

Listening. Listening was important in all aspects of the treatment whether singing, moving, or playing. Children listened for such things as beat, high/low pitch, fast/slow, and melodic direction. Later in the treatment, one lesson was devoted to a specific listening activity using Mussorgsky's "Ballet of Unhatched Chicks" (Mussorgsky, grade 1, CD 2, track 6). The short, repetitive nature of this composition was appropriate for the preschool child's attention span. The group listened to the music while watching pictures and listening to a story told by the instructor. The long sound at the end of each A section in the AABA composition was marked by an event in the story thereby adding focus to the format of the music and to the

actual listening. After several experiences with this activity, the children dramatized the story.

Instrument Playing. During the treatment, each child had an opportunity to play step bells, resonator bells, hand drum, log drum, and an autoharp. Preparation for playing these instruments was included in the instruction. Children were shown how to hold the instrument, how to strike the instrument using a mallet, and how to hold a doorstopper and strum the autoharp.

Movement. Movement was used throughout the treatment during steady beat, high/low, and listening experiences. Moving different body parts (e.g,. head, arms, feet) for steady beat, stretching tall and bending low as well as reaching arms up and down to show high and low were some of the activities. Children acted out stories as they listened. Additionally, movement provided a means for the children's expression of ideas related to song texts.

Analysis of Data

Instruction (music or no music) was the independent variable in this study. The two dependent variables were measures of receptive and expressive language performance. Raw scores were used for receptive language. For expressive language, mean length of utterance (MLU) and total utterance scores were used. Data treatment included descriptive

statistics, *t* tests, correlation between dependent variables, and analysis of variance (ANOVA). Data analysis was conducted at Austin Peay State University employing the *Statistical Package for the Social Sciences* (SPSS, 1988). Data were analyzed to test the following null hypotheses: (a) there will be no significant effect of music instruction on receptive language development, and (b) there will be no significant effect of music instruction on expressive language development.

CHAPTER IV

RESULTS

Introduction

This study focused on the effect of music instruction on the language development of preschool children. Two evaluation procedures were used for both the pretest and posttest. The *Peabody Picture Vocabulary Test-Revised* (Dunn & Dunn, 1981) (PPVT-R) was used to measure receptive language (i.e., comprehension of language used by others). Two forms of the PPVT-R provided procedures for pretest (form L) and for posttest (form M). Expressive language (i.e., verbal production of language) was measured by a language sample which was tape-recorded and analyzed according to procedures outlined by Loban (1976), Brown (1973), and Isbelle (Crosswhite, 1993b). The language sample provided two scores, mean length of utterance (MLU) and total utterance. Two independent judges analyzed the language samples achieving an acceptable interjudge reliability rating. The treatment was music instruction covering a three month period of time. Subjects were divided into an experimental group which received the music instruction treatment and a control group which received no treatment. All subjects in both groups were evaluated with the procedures listed above.

Overview Of Procedures and Observations Of Behaviors

Subjects were 33 three- and four-year-old children from two preschools in the Nashville, Tennessee area. Both schools were accredited by the National Association for the Education of Young Children (NAEYC) and had intact classes which were selected for the study. Neither program involved a music teacher or a music instructional program. As reported in chapter III, parents of all subjects were asked to complete a home music environment questionnaire. Eighty-eight percent (88%) of the parents of subjects in the experimental group returned the questionnaire while only forty-seven percent (47%) of the parents of subjects in the control group responded to the questionnaire. Profiles of the questionnaires that were returned indicated that there was some music involvement in each of the homes, although the amount and type of music varied.

Evaluation Procedures

All subjects were pretested and posttested in both receptive language and expressive language. As defined in chapter I and described in chapter II, receptive language involves comprehension of language used by others whereas expressive language involves verbal production of language (Michel & Jones, 1992; Boehm, 1992b). The PPVT-R was used to measure receptive language and a language sample to measure

expressive language. The researcher administered all pretests and posttests.

Peabody Picture Vocabulary Test-Revised. Two forms of the PPVT-R designed for test-retest purposes were used for pretests (form L) and posttests (form M) of receptive language. In this test, subjects responded by pointing to the one picture in a group of four pictures that corresponded to the word spoken by the test administrator. These responses were noted on a score sheet and analyzed according to the instructions in the test manual. From a starting point, determined by the child's chronological age, testing proceeded through a basal, which was the highest group of eight consecutive correct responses, until a ceiling was reached. The ceiling occurred at the end of a group of six errors within eight items. The total number of errors occurring between the basal and the ceiling was subtracted from the ceiling item number to provide a raw receptive language score for each child.

Language Sample Analysis. For expressive language, a language sample was collected. While subjects looked at two picture books and talked about the pictures, their comments were tape-recorded to provide the language sample. Transcriptions of the samples separated each communication unit or sentence. Transcriptions of mazes (repetitions,

parts of words, or words not necessary to the unit) were included as they occurred but bracketed to indicate that they were not part of the unit. The number of utterances (words) in each unit and the number in each maze were noted to the left of the unit on the transcript with maze numbers bracketed. At the end of the transcript, the total number of units, total number of utterances in units, and total number of utterances in mazes were recorded (Appendix D). Two scores were obtained for analysis from each transcription. The mean length of utterance (MLU) was derived by dividing the total number of utterances in units by the number of units, and the total number of utterances was obtained by combining the total number of utterances in units and the total number of utterances in mazes. This analysis was done by two independent judges who were trained by the researcher in the analysis process. Using coefficient alpha, scores from transcripts of ten randomly selected subjects resulted in an interjudge reliability of .97 for the MLU and .76 for total utterances.

Music Instruction

Following pretesting, the experimental group received treatment consisting of music instruction provided by the researcher. The control group received no treatment. Music instruction was provided in a group setting and was primarily teacher-directed offering limited time for free exploration

by individual children. Instruction included a variety of activities providing opportunities to explore concepts of keeping a steady beat, pitch matching, playing instruments, listening, and moving. Activities that were hands-on and that included individual and group participation were vital components of the instruction. Instruction occurred twice a week for three months with each lesson planned for twenty minutes.

Qualitative Descriptions of Subject Responses

Subjects in the study expressed enthusiasm for both the testing and treatment sessions. Perhaps the individual attention the children received and the opportunity to freely express themselves contributed to subjects' apparent enjoyment of the testing procedures.

In steady beat activities, the subjects were more accurate than anticipated, moving in parallel motion from one level to two levels and to alternating motion. When transfering a steady beat from body motions to balls and instruments, subjects also were more accurate than expected. All instruments introduced into the treatment were new to the children with the exception of the hand drum. Therefore, each instrument required exploration time. A number of children easily moved from free exploration to structured responses while other children continued in an exploration mode.

When singing, many of the children matched pitches on sol, mi while others matched the interval but not the beginning pitch. On one occasion, a child spontaneously responded using sol mi la sol mi. Subsequently, with no input from the instructor, other children echoed that same pattern. Children sang more accurately alone than with the group, and girls sang more accurately than boys in the study. As expected, children enjoyed action songs and songs used with picture books. When asked to respond by singing, playing instruments, or moving, children usually responded appropriately. If asked to respond verbally or to describe something, the response was less accurate than in a performance response. Since children learn by doing, the enjoyment exhibited by the children as they participated in the treatment may have contributed to music learning.

Descriptive Statistics

Pretest

Experimental Group. Box plots for the pretests indicated approximately normal distributions for the experimental group scores in both receptive language (see Figure 1) and expressive language (see Figure 2 and Figure 3). The plots did reveal, however, one low outlying score in receptive language. Scores from the PPVT-R form L resulted in a mean of 52.882 and a standard deviation of 13.257 for receptive language (Table 5).

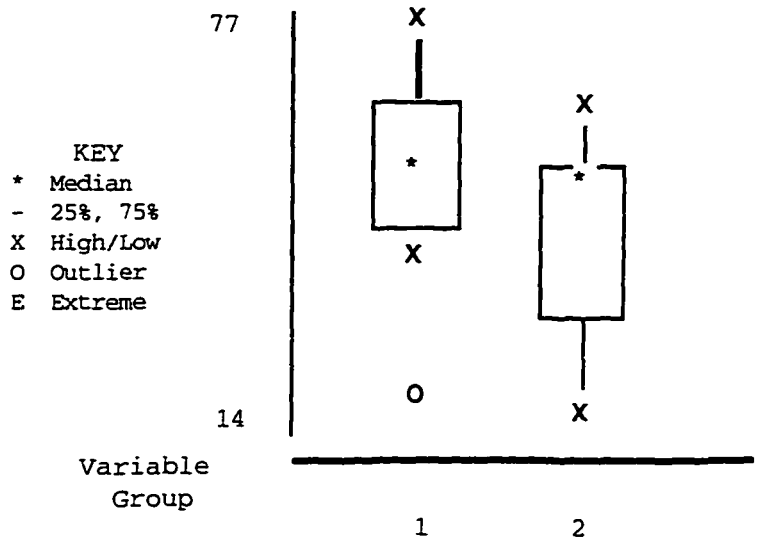

Figure 1. Box plots of Receptive Language Pretest Scores-Experimental Group (1) and Control Group (2)

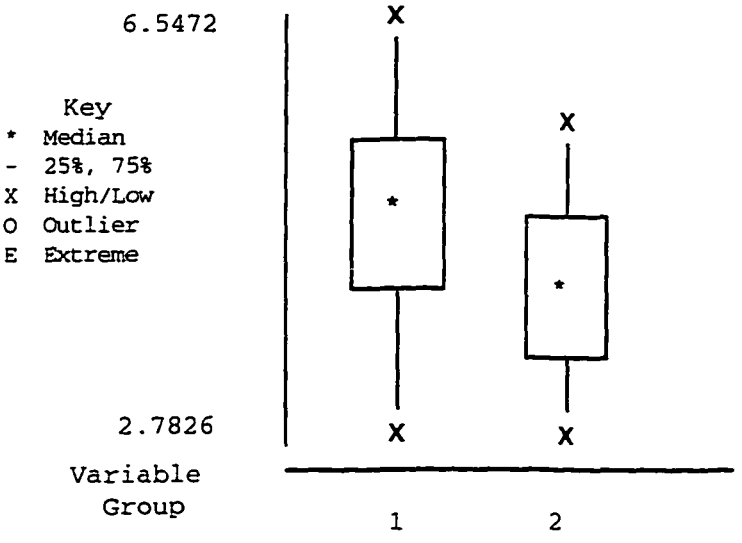

Figure 2. Box Plots of Expressive Language MLU Pretest Scores-Experimental Group (1) and Control Group (2)

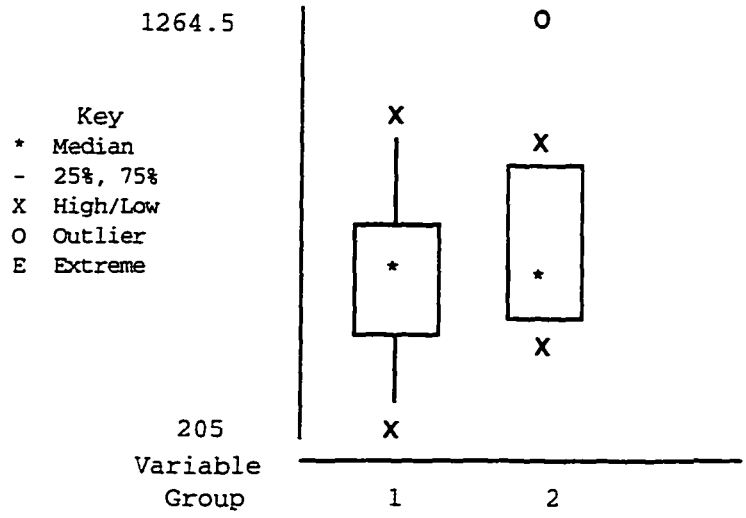

Figure 3. Box Plots of Expressive Language Total Utterance Pretest Scores-Experimental Group (1) and Control Group (2)

For expressive language, the mean for the mean length of utterance (MLU) was 4.705 with a standard deviation of 1.002. Expressive language total utterance scores produced a mean of 597.794 and a standard deviation of 201.798 (Table 6).

Control Group. For the control group, box plots indicated a negative skew in the score distribution for the PPVT-R form L (see Figure 1). Distributions for expressive language scores were normal (see Figure 2 and Figure 3) with one high outlying score in total utterances.

PPVT-R form L scores for the control group resulted in a mean of 44.692 and a standard deviation of 18.259 (Table 5).

Expressive language scores produced a mean of 3.995 and standard deviation of .882 for MLU and a mean of 534.885 and standard deviation of 292.226 for total utterance (Table 6).

Table 5
Peabody Picture Vocabulary Test-Revised, Form L, Pretest

Group	Mean	Std Dev
Experimental	52.882	13.257
Control	44.692	18.259

Table 6
Language Sample Pretest

	Mean Length of Utterance	
Group	Mean	Std Dev
Experimental	4.705	1.002
Control	3.995	.882

	Total Utterance	
Group	Mean	Std Dev
Experimental	597.794	201.798
Control	534.885	292.226

Posttest

Experimental Group. Box plots indicated approximately normal distributions of posttest scores for the experimental group in receptive language (see Figure 4) and in the total utterance expressive language (see Figure 5). However, the distribution of expressive language MLU posttest scores was positively skewed (see Figure 6). The plots revealed one low outlying score in total utterances and one extreme high score in the distribution of MLU scores.

Posttest receptive language scores using the PPVT-R form M resulted in a mean of 64.941 and a standard deviation of 15.530 for the experimental group (Table 7). In expressive language, the experimental group posttest scores produced a mean of 5.013 and standard deviation of 1.121 for MLU while total utterance scores produced a mean of 1189.382 and a standard deviation of 409.459 (Table 8).

Control Group. According to the box plots, distributions of posttest scores for receptive language (see Figure 4) and expressive language (see Figure 5 and Figure 6) for the control group were approximately normal. There was, however, one high outlying score in the expressive language MLU distribution. Posttest scores for receptive language produced a mean of 54.538 and a standard deviation of 17.751 (Table 7).

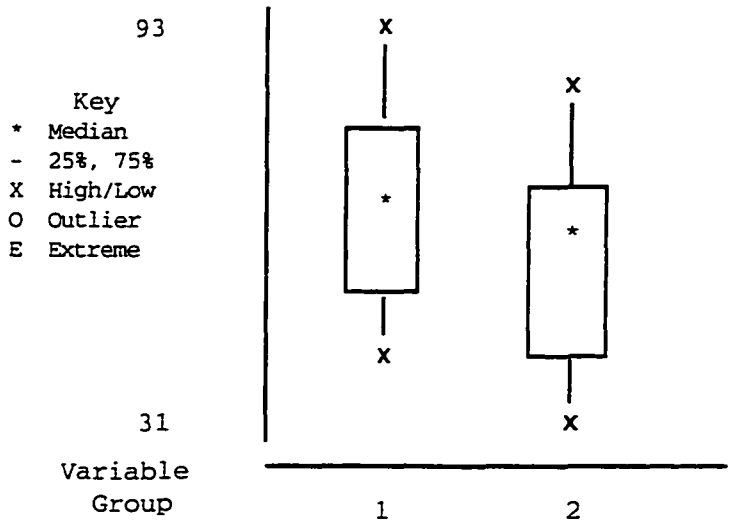

Figure 4. Box Plots of Receptive Language Posttest Scores-Experimental Group (1) and Control Group (2)

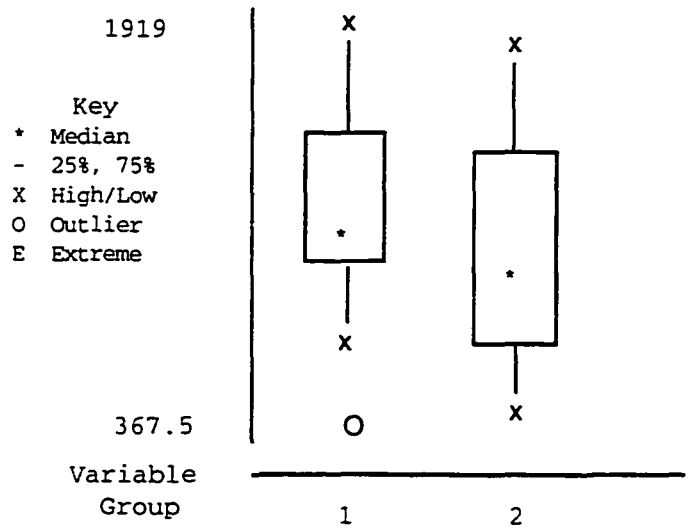

Figure 5. Box Plots of Expressive Language Total Utterance Posttest Scores-Experimental Group (1) and Control Group (2)

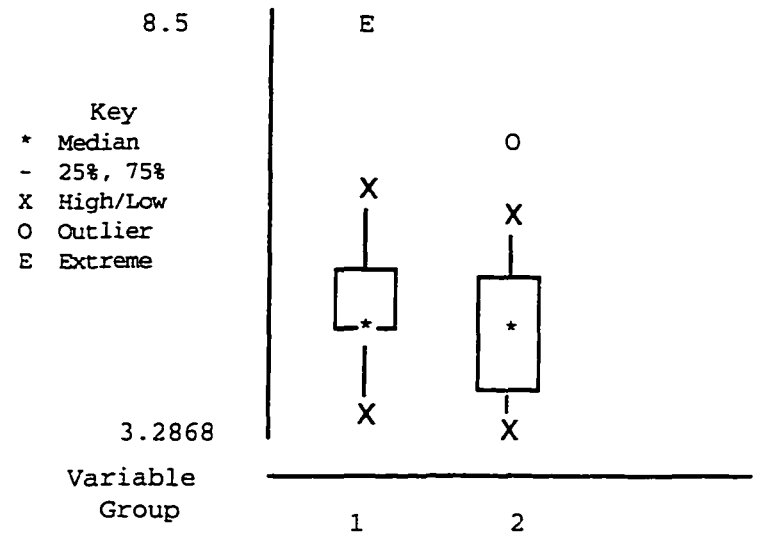

Figure 6. Box Plots of Expressive Language MLU Posttest Scores-Experimental Group (1) and Control (2)

Mean length of utterance posttest scores in expressive language for the control group resulted in a mean of 4.704 and standard deviation of 1.104. For total utterance in expressive language, the posttest mean was 1042.846 and standard deviation was 456.917 (Table 8).

Table 7
Peabody Picture Vocabulary Test-Revised, Form M, Posttest

Group	Mean	Std Dev
Experimental	64.941	15.530
Control	54.539	17.751

Table 8
Language Sample Posttest

	Mean Length of Utterance	
Group	Mean	Std Dev
Experimental	5.013	1.121
Control	4.704	1.104

	Total Utterance	
Group	Mean	Std Dev
Experimental	1189.382	409.459
Control	1042.846	456.917

Statistical Analysis

Pretest Analysis

To determine if there were pretreatment differences in the dependent variables, three *t* tests were run. For receptive language a *t* test analysis was done on PPVT-R form L scores of the experimental versus the control group. While the means differed considerably, the analysis showed that the difference was not significant ($p > .05$) (Table 9).

For expressive language separate *t* tests were conducted for MLU and for total utterance scores. Results of this analysis showed that the differences in the means were not significant (MLU $p > .02$; total $p > .20$) (Table 9). Since the differences were not significant, posttest analysis using pretest scores as covariates was deemed unnecessary.

Table 9
t Test Analysis of Pretest

Pretest	*t*	*p*
Experimental vs. control groups PPVT-R, L	1.425	> .05
Experimental vs. control groups MLU	2.022	> .02
Experimental vs. control groups Total	.698	> .20

Posttest Analysis

To determine if there was any correlation between the dependent variables, the Pearson product-moment analysis was conducted. Results revealed a correlation of .159 between receptive language and expressive language MLU and a correlation of .053 between receptive language and total utterance expressive language performance (Table 10). The correlation, therefore, between receptive language scores and expressive language scores, both MLU and total utterance, was positive, but minimal.

Table 10
Pearson Product-Moment Correlation

Variables	*r*
PPVT-R and Language MLU	.159
PPVT-R and Language total utterance	.053

Following the correlation analysis, posttests scores were analyzed using an analysis of variance procedure (ANOVA). Scores for the evaluation of receptive language were higher for the experimental group than for the control group. However, the mean scores of the two groups were only slightly different and the difference was not significant ($p = .072$) (Table 11).

Table 11
ANOVA of PPVT-R, Form M

Source	*df*	Sum of squares	Mean square	*F*	*p*
Between	1	906.833	906.833	3.490	.072
Within	28	7274.633	259.808		

For expressive language, the language samples were analyzed for mean length of utterance and for total utterance. As in receptive language, the expressive language scores for the experimental group were higher than those of

the control group. However, analysis of variance results indicated no significant differences between groups in either mean length of utterance (p = .457)(Table 12) or total utterance (p = .363)(Table 13).

Table 12
ANOVA of Language Sample Using Mean Length of Utterance

Source	*df*	Sum of squares	Mean square	*F*	*p*
Between	1	.705	.705	.568	.457
Within	28	34.739	1.241		

Table 13
ANOVA of Language Sample Using Total Utterance

Source	*df*	Sum of squares	Mean square	*F*	*p*
Between	1	158183.385	158183.385	.854	.363
Within	28	5187780.957	185277.891		

The Hypothesis

The null hypotheses tested in this study were the following:

1. There will be no significant effect of music instruction on receptive language development.
2. There will be no significant effect of music instruction on expressive language development.

Results of the data analysis for receptive language did not produce significant differences between means at the .01 level thus resulting in the failure to reject the null hypothesis that there is no effect of music instruction on receptive language development. Likewise, results of data analysis for expressive language did not produce significant differences in the means at the .01 level thus resulting in the failure to reject the second null hypothesis as well.

Summary

When comparing posttest scores for both receptive and expressive language, results indicated higher achievement for the group receiving treatment than for the group that did not receive treatment. However, the differences were not statistically significant. The small number of subjects may have contributed to the lack of significance due to low statistical power. Had significance been tested at the .05 level instead of .01 for the pretests, the *t* test for expressive language MLU would have yielded significant results ($p > .025$). The *t* tests for receptive language and for expressive language total utterance, however, would not have yielded significant results at the .05 level nor would the results of ANOVAs run on posttest scores have been significant at the .05 level. Results, however, did reinforce Levinowitz's (1989) findings of no significant effect of music instruction on receptive language development

in preschool children. The current study provides foundational results and information in the search for knowledge as to how children learn. Additionally, these data provide a basis upon which to build in the search to determine the extent to which music instruction affects language development of preschool children.

CHAPTER V

CONCLUSIONS

Introduction

The effect of music instruction on language development of preschool children was the subject of this study. Subjects were 33 three- and four-year-old children from two preschools in the metropolitan Nashville, Tennessee area. These preschools were the State Employee Child Care Center for children of state government employees and the Vanderbilt Child Care Center for children of employees of Vanderbilt University. Both sites enrolled three- and four-year-old children, and had similar programs accredited by the National Association for the Education of Young Children (NAEYC). Neither site provided a music teacher or a program of music instruction.

The study design was that of a pretest, treatment, and posttest. The independent variable was music instruction (music, no music), and dependent variables were measures of receptive and expressive language performance.

Discussion

One intact class from each of the two sites provided subjects for the current study. The State Employee Child Care Center provided the experimental group which received

treatment while the control group at Vanderbilt Child Care Center received no treatment. The selection of the State Employee Child Care Center as the experimental group was determined by the request from the center to receive music instruction.

Evaluation Procedures

Evaluation procedures included both receptive and expressive language. Receptive language is the comprehension of language used by others whereas expressive language is verbal production of language. The *Peabody Picture Vocabulary Test-Revised* (Dunn & Dunn, 1981) (PPVT-R) was used to measure receptive language. The PPVT-R provided two forms designed for test-retest purposes. Form L was used for the pretest and form M for the posttest. To measure expressive language, a language sample was tape-recorded and analyzed. This sample was obtained in special sessions with each child wherein the child's comments, made in response to two picture books, were tape-recorded. Different books were used for the pretest and posttest to control for familiarity. These books were chosen with assistance from librarians who were responsible for children's programs at two east Tennessee libraries. Criteria for book selection were large, attractive illustrations with minimal text and content that related to the child's experience; these books were about animals. In addition, the content was not lengthy and the

books could be handled easily in a physical manner by each child.

Total testing procedures required approximately one hour for each subject, and were conducted by the researcher. For receptive language, the PPVT-R was administered according to the instructions in the test manual. While looking at a group of four pictures, subjects pointed to the one picture in the group that corresponded to a word spoken by the test administrator. The child's responses were recorded and analyzed.

Language samples were transcribed by the researcher and analyzed to provide two scores for expressive language. The two scores were mean length of utterance (MLU) and total utterance. To obtain the MLU, the total number of utterances (words) in units was divided by the number of units (sentences). To obtain the total utterance score, the total number of utterances in mazes was added to the total number of utterances in units. Mazes are parts of words, repetitions of words, and words not necessary to a unit. Analysis of the transcripts was conducted by two independent judges trained by the researcher. One judge was a music educator and the second was in language arts education. Interjudge reliability was acceptable for both MLU and total utterance scores. Final scores for each subject were obtained by averaging the scores of the two judges.

Treatment

Treatment for the study was music instruction designed for the subjects in a developmentally appropriate manner and included singing, moving, listening, and instrument playing. The experimental group received music instruction, provided by the researcher, while the control group received no music instruction. The music instruction was provided twice a week for three months with each lesson planned for twenty minutes. Each lesson included a variety of activities designed for the preschool child and involved explorations of steady beat, pitch matching, instrument playing, listening, and moving. While primarily a teacher-directed program, the instructional period provided for both individual and group responses.

Flexibility in instruction was necessary to adjust lessons as subject responses dictated. This was especially true for movement activities when the expectation of parallel, one-level motion was exceeded and subjects progressed to two levels and some alternating motion. In pitch matching, many subjects not only matched the direction of an ascending and descending five-note pattern, but also matched the pitches. This matching of the five-note pattern typically occurred when accompanied by step bells and was sung in the context of a story.

Subjects' responses were most positive in activities involving the use of books or other visual aids or the use of

instruments. To minimize distraction and provide for exploration of an instrument, no more than one new instrument was introduced within a lesson All subjects in the treatment group were provided opportunities to play each of the instruments used in treatment.

Following the three month treatment period, all subjects were posttested in receptive and expressive language. Procedures for testing and scoring were identical to those for pretesting with the use of an alternate form (M) of the PPVT-R and different books in the language sample.

Findings of Data Analysis

Three *t* tests, a Pearson product-moment correlation analysis, and three analyses of variance were used to analyze the data. The *t* tests were conducted on pretest scores to determine if there were pretreatment differences in the dependent variables which were measures of receptive and expressive language performance. These differences were found not to be significant. Therefore, posttest analysis using pretest scores as covariates was eliminated.

The Pearson product-moment correlation analysis of posttest scores revealed little correlation between receptive and expressive language scores. Three one-way analyses of variance (ANOVA) then were conducted on the posttest scores. Results of the three ANOVAs indicated no significant differences between scores of the experimental group and

scores of the control group. Even though the scores of subjects in the experimental group were superior to those of the control group subjects, the differences in the means of the scores were not significant. Therefore, both null hypotheses were retained.

Conclusions

The purpose of the current study was to investigate the effect of music instruction on language development in preschool children. The results of data analysis indicated that there was no significant effect of music instruction on the language development, either receptive or expressive, in preschool children.

Limitations of the Study

Analysis of the data from this study resulted in the retention of both of the null hypotheses. A number of factors may have contributed to the failure to reject the null hypotheses. One factor was the self-selection of the State Employee Child Care Center as the site to receive treatment. This condition may have caused bias, thus resulting in a more positive and supportive environment for the experimental group than for the control group, possibly contributing to higher test scores for subjects at this site. Random selection of the treatment site would have enhanced the validity of the study. In addition, there was a possible

age effect. Subjects in the experimental group were slightly older than those in the control group creating a possibility for higher scores within the experimental group than in the control group because of age.

The primary factor influencing the outcome of the study was likely the sample size. The small number of subjects reduced the statistical power, a primary reason for a possible type II error. According to Glass and Hopkins (1984), retention of a null hypothesis when it should be rejected is a type II error. Since *t* test analysis indicated no significant differences between the groups, no posttest analysis using pretest scores as covariates was conducted. An analysis of covariance might have compensated for the lack of power caused by the small sample size.

A change in design to use the posttest simultaneously as a pretest and extend the study for another three months could have strengthened the outcome. This procedure would have resulted in the reversal of the experimental and control groups following posttesting with the group not receiving treatment earlier receiving the treatment in the second study segment. A treatment period for the control group would have been followed by an additional posttest. Results from a design of this type would have increased the amount of data. Alternatively, sample size could have been increased by the addition of new sites.

Significance was tested at the .01 level. Testing at the .05 level would have increased power somewhat resulting in a significant difference in the *t* test analysis of expressive language MLU pretest scores. None of the other analyses, however, would have resulted in significant differences had the probability level been changed from .01 to .05. Thus, the final outcome would not have been altered.

Conclusions of the Study

Results of this study showed that there is no significant effect of music instruction on language development in preschool children ($p < .01$). However, based on the concept discussed in chapter II that language development is a process and Hoffman's (1992) statement that this development is aided by the environment when that environment is geared to the child's way of learning, a number of conclusions were made from the current study.

Since language skills increase as a child develops, it would appear that a program of music instruction based on the child's developmental level and presented in a sequential pattern should enhance the process of language development. Although music instruction did not significantly affect language development in the current study, a program of music instruction may provide an environment that supports the language development process of preschool children.

A program of music instruction can provide an environment associated with a child's way of learning. Effective music instruction should be based on the ways in which children learn and should include a variety of activities in singing, moving, listening, and instrument playing. These activities should reflect research findings such as those related to singing. In this study, for example, responses of children corresponded with the findings in other studies showing that girls sing more accurately than boys and that children sing more accurately alone than in a group. Music activities also should not limit the responses of the children. Clearly some of the children in this study were developmentally ready to go beyond the expectations of the researcher; this was true both in pitch matching and in movement activities. A number of resources are available from Music Educators National Conference and others that can provide assistance to teachers in establishing an environment associated with the child's way of learning.

When in the course of a music lesson, a child is encouraged to talk about music activities, a song, an instrument, or a book as well as to perform, expressive language is impacted. During music instruction, children should be encouraged to talk about music and their music experiences. The adult should listen carefully to the child and then respond to what the child has said. When a child

responds accurately using a performance mode, the instructions of the teacher have been comprehended which is receptive language. Over time, repetition of this performance with encouragement in verbal description of the performance may lead to expressive language as well as receptive language development in the area of music.

One language tool found in most preschool settings is a picture book. Children in the current study were captivated by picture books, and there are many musical concepts that can be taught through the use of these books. When music activities in which the child is a participant are added to the telling of a story, the meaning of both the music activity and the story is enhanced for the child. In addition, the same books can be integrated into other areas of the curriculum by other teachers thus reinforcing the language used with each book.

This study produced no conclusions regarding home music environment. The questionnaires, however, indicated that there was a variety of music present in the homes of those who responded. Types of music listened to included country, jazz, rhythm and blues, rock, classical, and church music. All mothers sang to their children but not all fathers. The music activity mentioned most often was listening while riding in the car. The box plots in the analysis of the data from this study showed one extreme high score on the

posttests. That score represented a child from the experimental group. An examination of the home music environment questionnaire for the child revealed a home that was musically very active. Two factors were reported on this questionnaire that were not reported on any of the others: parents danced at home, and the child was involved in a planned music program at church. This environment possibly aided the child's language development.

Whether or not music instruction has an effect on language development, preschool music teachers can maintain an environment associated with a child's way of learning, provide a variety of music activities, encourage children to express themselves verbally and nonverbally, and increase the child's experiences in the music world. These experiences should aid the development of the receptive language vocabulary in music and the understanding of music concepts even if they do not affect the general development of language skills. The child's awareness of the music world certainly will be broadened and, perhaps, a foundation will be laid for future music learning.

Relation to Other Studies

A number of findings in the current study related to the work of other researchers. Children receiving treatment often sang more accurately alone than within the group, and girls sang more accurately than boys. This observation

matched the conclusions of Goetz and Horii (1989). Gilbert's (1981) research involved striking skills in a study of motoric music skill development. She recommended that further study should be conducted on the stability of these skills and their relationship to other musical skills. Children in the current study in exploring the use of instruments played by striking attempted to match performances of other children. The physical involvement in striking appeared to enhance steady beat maintenance skills of the children. Whether these skills remained stable following treatment is not known.

Tillman (1989), in his spiral of musical development, listed birth to age four as a time in which the child is concerned with the sounds instruments make. However, he contended that at about age four, the child begins to manipulate materials in order to control sounds. Several of the instruments used in the treatment of the current study were new to subjects and, regardless of the age of the subject, required exploration of the sounds that could be made with the instrument. Following some exploration time, however, most subjects began to manipulate the sounds. These observations possibly coincided with Tillman's findings since the subjects were at his stated age of change from exploration to manipulation of sounds.

Regarding receptive and expressive language development, the current study confirmed the findings of Van Zee (1976), Hair (1977), Webster & Schlentrich (1982), Lichtenstein (Lichtenstein & Ireton, 1984), and Sloboda (1985) that receptive language skills precede expressive language skills. Subjects in the current study responded accurately through performance but often had difficulty in communicating through verbal language.

Levinowitz (1989), in her study involving music and receptive language, found little correlation between tonal and rhythm singing achievement and receptive language development in preschool children. Subjects in the Levinowitz study received five months of music instruction before they were tested for singing achievement and for receptive language ability. Data analysis in the current study also indicated no significant effect of music instruction on receptive language development in preschool children. The Levinowitz study did not include expressive language, but did involve a small sample size (35).

Summary

The effect of music instruction on language development of preschool children was the subject of this study. Data analysis resulted in no significant differences in receptive and expressive language test scores between the experimental and control groups. Therefore, the null hypotheses were

retained. Whether the outcome of the current study was the result of a small sample size or of no actual effect of music instruction on language development was not determined. Future research in this area should include a larger sample size in order to eliminate the possibility of retaining the null hypotheses if indeed there is an effect of music instruction on language development.

The current study was designed to provide a data base to serve future large sample research specifically designed to study the effects of a sequential program of music instruction on the language development of preschool children. Although the results of the study led to a failure to reject the null hypotheses, the study did provide a data base for future large sample research.

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APPENDIX A

COVER LETTER AND CONSENT FORM

Dear Parent,

I am a music consultant with the Tennessee Department of Education and a certified music teacher in the state. I am seeking your assistance in a project that I hope will benefit all involved.

As I am sure you know, children eagerly respond to music. Research and articles in many journals attest to this fact. I also believe that music can have a positive effect on language development, but there is a lack of research to support this. Therefore, I am conducting a study to see if this can be documented which is where I need your assistance. This project has been approved by the Tennessee State Employee Child Care Center. I would like to include you and your child in my study. The attached consent form explains more about the study and the involvement I am seeking from you. In order for this study to be effective at the Child Care Center, I need your support.

Please sign and return the attached form. I appreciate your assistance.

Sincerely,

Jeanette Crosswhite
Music Consultant
TN Department of Education

INFORMED CONSENT STATEMENT

The Department of Music at the University of North Carolina at Greensboro supports the practice of protection for human subjects participating in research. The following information is provided concerning the study in which you and your child are being asked to participate.

> This study is concerned with the investigation of the effect music instruction may have on language development. Your child will be placed in one of two groups, one of which will receive music instruction over a period of approximately three months. Each child will be given the *Peabody Picture Vocabulary Test-Revised* at the beginning and again at the end of the study. Additionally, each child will provide a language sample in the form of story telling at the beginning and again at the end of the study. The investigator, a certified music teacher, will be the music instructor. You, the parent, will be asked to complete a home musical environment questionnaire.

Your participation is appreciated and encouraged, but is strictly voluntary. Anonymity is assured. Upon completion of the posttest, do not hesitate to ask questions about the study.

Sincerely,

Jeanette Crosswhite
Music Consultant

_____

Parent or Guardian Signature

_____

Date

APPENDIX B

QUESTIONNAIRE

HOME MUSICAL ENVIRONMENT QUESTIONNAIRE

Questions are to be answered by circling "yes" or "no" and by filling in the blanks.

		Circle
1.	Father sings to child If yes, at home _____ in car _____ other _____	yes no
2.	Mother sings to child If yes, at home _____ in car _____ other _____	yes no
3.	Father sings with child If yes, at home _____ in car _____ other _____	yes no
4.	Mother sings with child If yes, at home _____ in car _____ other _____	yes no
5.	Father helps child learn songs	yes no
6.	Mother helps child learn songs	yes no
7.	Father encourages child to move to music	yes no
8.	Mother encourages child to move to music	yes no
9.	Father attends concerts If yes, what type? _____ How often? _____	yes no
10.	Mother attends concerts If yes, what type? _____ How often? _____	yes no
11.	Father takes child to concerts If yes, what type? _____ How often? _____	yes no
12.	Mother takes child to concerts If yes, what type? _____ How often? _____	yes no

13. Father sings/has sung in musical group(s) yes no
If yes, what type group(s)?
Civic chorus, church choir, barbershop, college choir
Other (specify)_____

14. Mother sings/has sung in musical group(s) yes no
If yes, what type group(s)?
Civic chorus, church choir, sweet adelines, college choir
Other (specify) _____

15. Father plays/has played in musical group(s) yes no
If yes, what instrument(s)? _____

16. Mother plays/has played in musical group(s) yes no
If yes, what instrument(s)? _____

17. Father has taken music lessons yes no
If yes, how long? _____
If yes, voice? _____
instrument (specify)? _____

18. Mother has taken music lessons yes no
If yes, how long? _____
If yes, voice? _____
instrument (specify)? _____

19. Is a musical instrument in the home? yes no
If yes, what instrument(s)? _____

20. State approximate number of music recordings father purchased for self during past six months. _____

21. State approximate number of music recordings mother purchased for self during past six months. _____

22. State approximate number of music recordings purchased for child during past six months. _____

23. List most typical type music recording purchased for child. (i.e. Sesame Street, Wee Sing, church songs)
_____

24. Is there another child in the home? yes no
If no, proceed to #27.

25. Does another child in the home play a musical instrument(s)? yes no
If yes, how many children? _____
If yes, what instrument(s)? _____

26. Has another child in the home or is another child in the home currently taking music lessons? yes no
If yes, one child _____ two children ____
more (specify #) _____

27. Parent completing this questionnaire:
mother _____ father _____ both _____

COMMENTS regarding music in your home:
(i.e. constant, very little, only radio or TV, listen to country music, listen to classical music, etc.)

APPENDIX C

LESSON PLANS

LESSON ONE

OBJECTIVES:

Children are at ease with new teacher.
Children understand expectations of new teacher.
Children sing familiar song.
Children begin voice exploration.
Children sing segment of "Brown Bear" on sol, mi.

MATERIALS:

Direction charts
Brown Bear, Brown Bear, What Do You See?
"Good Morning"--familiar song
"Brown Bear"--teacher composed song.
Name tag for each child

PROCEDURES:

Children are seated in semi-circle on floor facing teacher
Teacher explains setting for Tuesday, Thursday mornings
Children sing "Good Morning" song they already know well (led by classroom teacher)
Children sing a second familiar song (led by classroom teacher)
Teacher sings "Hello" to each child singing child's name (use sol mi)
When child hears his/her name, comes to teacher to receive name tag.
Children mirror teacher: both arms up
both arms down
Teacher adds voice up and down as arms go.
Teacher asks: Where did arms go? Where did voice go?
Reinforce.
Children add voice to arm movement
Show line charts and discuss how voice would go.
Make voices move as teacher indicates on charts.
Move to chart that moves as "sol mi". Sing this on neutral syllable.
Then sing "Brown Bear" on these pitches.
Introduce book *Brown Bear, Brown Bear, What Do You See?*
All sing "Brown Bear" Teacher sings "What do you see?"
Responses from children who probably know this book.
Children sing animal response (redbird); teacher sings rest.
Repeat
What direction does "looking at me" go?
(Children probably will not be able to determine)
Proceed through several verses (redbird, yellow duck)

Review charts using arm and voice movement
Next time will do something else with "Brown Bear"
Sing "Goodbye" to each child individually on sol mi syllables.

LESSON TWO

OBJECTIVES:

Children continue vocal exploration.
Children sing segments of "Brown Bear" using sol mi pitches.
Children keep beat--parallel, one level on different body parts.*
Children keep beat to "Teddy Bear March."

MATERIALS:

Brown Bear, Brown Bear, What Do You See?
Direction Charts
Cassette tape of "Teddy Bear March"
Tape player
Teddy Bear

PROCEDURES:

Children are seated on floor in semi-circle.
Review vocal exploration from last time using charts
Review "Brown Bear"
Sing "Brown Bear" as did last time
Complete book discussing and singing about all the animals.
Children mirror beat motions with patsch
Change to shoulders, head, etc.
Keep beat with patsch as listen to "Teddy Bear March"
Repeat keeping beat on shoulders and head also.
Repeat with teddy bear keeping beat
Teacher sings "Goodbye" on sol mi including each child's name.
As child hears his/her name, stands and echoes it

* Note: Throughout lessons in reference to steady beat, some children will keep a beat while others will explore but be unable to do so yet.

LESSON THREE

OBJECTIVES:

Children mirror teacher motions.
Children sing own names matching pitch on sol mi
Children explore steady beat
Children play beat on handdrum

MATERIALS:

Name tags for each child
Brown Bear, Brown Bear, What Do You See?
"The Footlifter" *The Music Connection* (1994) Grade 1, CD 6, #38
CD Player
Slinky
Hand drum
"Eensy Weensy Spider"

PROCEDURES:

Children are in place on carpet.
Children mirror hand and arm motions of teacher: up, down, fast, slow
Teacher demonstrates up and down motion with slinky
Teacher demonstrates vocal movement with slinky motion
Children make voices do what slinky does
Review "Brown Bear"
Would redbird be high or low? Put voice there.
duck?
goldfish?
Children mirror teacher in beat patterns: patsch, shoulders, head, etc.
Teacher demonstrates playing drum when placed on floor and when holding it
Continue beat patterns with "Footlifter"
Teacher adds hand drum
Children take turns playing hand drum. (May choose to place drum on floor or hold it)
Children sing familiar song "Eensy Weensy Spider"

LESSON FOUR

OBJECTIVES:

Children continue vocal exploration
Children continue mirror activities
Children continue beat activities
Children match pitches

MATERIALS:

Two hand drums
Slinky
"Footlifter" *The Music Connection* (1994) Grade 1, CD 6, #38
CD player
The Itsy Bitsy Spider
Valentine pencils for each child

PROCEDURES:

Children mirror motions of teacher
Teacher changes motions into beat pattern
Listening to "Footlifter" children mirror teacher's beat patterns (Levels, parallel, alternating, end with preparation for playing drum) Always in phrases.
Children play drum to music (use 2 drums so that children have opportunity to play sooner) Each child has an opportunity.
Remind of "Eensy Weensy Spider" they sang last time.
Do spider climbing and falling motions.
Add voice to climbing and falling motions
Children sing song as do spider motions.
Teacher shows book *The Itsy Bitsy Spider* as sing again
Review "Brown Bear"
Children sing "Brown Bear"
When get to "teacher" teacher sings each child's name
Child echoes name and receives valentine pencil

LESSON FIVE

OBJECTIVES:

Children continue exploring high and low and fast and slow vocal movements
Children sing familiar song and add new verses
Children find ways to show movements for new verses

MATERIALS:

Slinky
"Footlifter" *The Music Connection* (1994) Grade 1, CD 6 #38
The Itsy Bitsy Spider
Step bells and mallet
CD Player

PROCEDURES:

Children mirror teacher in arms up and down
Children add voices to arm movement
    How slowly can voice go?
    Make voice stay with slinky
Review "Eensy Weensy Spider"
Teacher sings first phrase
Children take voices up water spout as the slinky climbs
Teacher sings next phrase
Children take voices down as slinky does
Teacher sings rest of song
Children take voices back up water spout as slinky does
Repeat
Add verse about kitchen wall
Add yellow pail and rocking chair with use of the book
    Discuss each verse and what happens to spider
    How does spider move?
Children stand and mirror teacher beat patterns done in phrases (Use knees, shoulders, head, etc. saying words as tap the body part)
Repeat with "Footlifter"
Continue with music: Walk in place, walk tall, walk short
Stop music while still standing
Children watch slinky and sit down as slinky goes down.
Review first verse of "Eensy Weensy Spider" using slinky
Show how spider can go up and down with step bells

LESSON SIX

OBJECTIVES:

Children continue vocal exploration of high and low, upward and downward, and fast and slow.
Children move to music

MATERIALS:

The Itsy Bitsy Spider
"Footlifter" *The Music Connection* (1994) Grade 1, CD 6 #38
CD Player
Slinky
Step bells and mallet

PROCEDURES:

Review arm movement and vocal correlation
Review vocal movement with slinky
Children watch slinky and stand as it goes up
Review beat patterns
Children move to "Footlifter"
Include walk tall, walk low (in place)
Children sit down as slinky goes down
Review "Eensy Weensy Spider" taking voice up and down with slinky
Finish *The Itsy Bitsy Spider* discussing each new verse
Teacher sings; Children sing parts they know and beginning of each new verse.
Teacher plays step bells to show movement of spider up and down
Several children who were especially attentive are chosen to play the bells
(Everyone plays next time)

LESSON SEVEN

OBJECTIVES:

Children continue vocal exploration.
Children listen for high and low and upward and downward
Children individually coordinate their voices with slinky
Children begin to sing upward and downward directional patterns
Children individually play step bells

MATERIALS:

Slinkies
Stepbells and mallet

PROCEDURES:

Teacher reviews coordination of voice and slinky motion
Up and down
Fast and slow
Up and down a long way and short way
Each child chooses which color slinky he/she wishes to use and makes voice go with way he/she makes slinky move.
Children listen to step bells
Children watch teacher play step bells
determine whether sound is going up or down and part way or all way up or down bells
Children close eyes and put hands up or touch floor to show direction of bells
Teacher plays and sings up five notes
Children listen several times and then echo
Children count number of bells played
Children sing numbers
Children sing five-note scale on "thump" (preparation for later story)-match direction if not all pitches
Teacher plays sol mi on bells
Teacher sings each child's name while playing sol mi on bells
When child hears his/her name, comes up and plays sol mi on the bells

LESSON EIGHT

OBJECTIVES:

- Children sing upward and downward directional pattern with stepbells
- Children sing do mi
- Children sing part of new song "Clang, Clang"
- Children play five-note scale on step bells

MATERIALS:

- Step bells and mallet
- "Clang Clang" song from *Mortimer*

PROCEDURES:

- Teacher reviews step bells, playing up and down five notes
- Children sing five-note pattern using numbers
- Children sing five-note pattern using "thump"
- Review singing of sol mi on "Brown Bear" and "Hello"
- Review playing these notes on step bells
- Children listen to teacher sing and play do mi
  - What is different? (Children may not be able to hear or to verbalize this yet)
  - Repeat and determine direction
- Children sing "Hello" on do mi
- Change "Hello" to "Clang Clang"
  (Use this word because of song with a story)
- Children sing "Clang Clang" while teacher sings rest of first half of song
- Repeat and children listen to determine rest of words
- Speak "Rattle bing bang"
- Repeat this half of song
- Add remainder of song
- What direction does it go at end?
  - Listen and move hands to show direction
  - (May need help in determining that it goes upward)
- When know direction, repeat this section several times while children raise arms with it.
- Review entire song
- Repeat
- Review five-note pattern with step bells
- Sing as very tired person, after nap person, etc.
- Teacher sings each child's name using ascending five-note scale
- Child responds by coming to front and playing this scale on step bells
- Everyone sings "Clang Clang" twice more.

LESSON NINE

OBJECTIVES:

Children sing "Clang Clang" from *Mortimer*
Children sing five-note scale ascending and descending using "thump"
Children sing these at the appropriate times in the story of Mortimer

MATERIALS:

Step bells and mallet
Mortimer
"Clang Clang" from *Mortimer*

PROCEDURES:

With step bells, review five-note scale ascending and descending using "thump"
With step bells, review do mi and sing using "Clang Clang"
Review entire song "Clang Clang"
Look at book *Mortimer*
Sing "thump" part whenever anyone goes up or down stairs in story
Sing "Clang Clang" song whenever Mortimer sings his song
Teacher reads story while showing pictures
Children respond by singing at the appropriate times with fast or slow footsteps etc. on "thump"
Discuss story
Sing "Clang Clang" one more time

LESSON TEN

OBJECTIVES:

Children say rhyme rhythmically
Children keep beat to rhyme
Children use whispering and speaking voices

MATERIALS:

Mortimer
"Old King Cole"
Nursery rhyme book
Foam balls

PROCEDURES:

Review *Mortimer*
Review five-note pattern and "Clang, Clang"
Sing "Clang, Clang" and add patsch
Teacher chants "Old King Cole"
Repeat
Repeat while children patsch beat
Discuss rhyme, making sure children understand all terms
Show pictures from nursery rhyme book
Chant first half
Children chant first half
Repeat procedure with second half
Children chant entire rhyme
Chant rhyme and patsch beat
Chant with whispering voice
Chant with speaking voice
Divide group:
    group one whispers while group two listens
    group two speaks while group one listens
    reverse groups
All children speak and then whisper rhyme
All in one big circle:
    whisper and patsch
    speak and pat floor in front
Then take turns with a ball tapping ball on floor to the beat

LESSON ELEVEN

OBJECTIVES:

- Children use speaking and whispering voices
- Children keep beat to "Old King Cole"
- Children keep beat with foam ball
- Children reinforce concept of high and low through moving to song
- Children play resonator bells at appropriate time with song

MATERIALS:

- "Old King Cole"--rhyme
- "The Noble Duke of York"--song
- Foam balls
- Resonator bells G, A, B, C

PROCEDURES:

- Review "Old King Cole"
- Review voice types
- Chant "Old King Cole" using speaking and whispering voices
- Keep beat with ball then pass it on to next person (one ball for every three children worked well). When do not have ball pat beat on floor or knees.
- Teacher sings "Noble Duke of York"
- Talk about duke, what he did, how many men, etc.
- Teacher sing again
- Teacher sing and children march hands up and down as the men in the song
- Repeat
- Stand and march high or march low in place to indicate how men are going
- Seated, add resonator bells.
- Introduce bells and how to play
- Sing and play bells at appropriate time (G-he; A-had; B-marched; C-top; B-marched; A-down; G-gain)
- Using four children at a time, each child plays one bell when pointed to by teacher
- Sing song until each child has had a chance to play
- Sing one final time without bells

LESSON TWELVE

OBJECTIVES:

Children continue to explore steady beat
Children play resonator bells at appropriate time
Children chant "Old King Cole" with steady beat
Children sing most of "Noble Duke of York"

MATERIALS:

"Old King Cole"--rhyme
"Noble Duke of York"--song
Foam balls
Resonator bells--G, A, B, C
Autoharp with rubber doorstopper
"Higher Than a House"--song

PROCEDURES:

Teacher begins by saying and patsching "Old King Cole"
Continue and hand out balls to every third child
Continue with chant until each child has had a chance to use ball to keep steady beat
Review "Noble Duke of York"
Teacher sing and children sing what they can
Sing and patsch
Keep beat with balls as in "Old King Cole"
Add resonator bells using same procedure as last time
Continue until each child has had a chance to play (singing may cease for children who are concentrating on balls or bells)
Add autoharp to "Noble Duke of York"
If time allows, sing "Higher Than a House" using autoharp accompaniment

LESSON THIRTEEN

OBJECTIVES:

Children continue beat activities
Children demonstrate an awareness of high and low through movement
Children begin to sing a new song
Children experiment with playing autoharp

MATERIALS:

Foam balls
Autoharp with rubber doorstopper
"Noble Duke of York"--song
"Higher Than a House"--song

PROCEDURES:

Sing "Noble Duke of York"
Keep beat with foam balls while singing song
(same procedure as used previously)
Add autoharp to "Noble Duke of York"
Teacher sings "Higher Than a House" using autoharp accompaniment
Sing and ask children to listen for what song is about
Talk about what is higher than a house or a tree
Teacher sings again
Talk about what is underneath the water and the sea
Teacher sings again
Teacher sings again
children raise arms high when "higher"
children put arms down when "underneath"
Teacher sings again
children stand on "higher"
children bend over on "underneath"
Listen to see direction melody goes at end of song
Talk about
Teacher sings and children show high and low as before adding low at end.
Repeat
Talk about autoharp
Show how it works
Let children take turns strumming as teacher holds autoharp and presses chord buttons

LESSON FOURTEEN

OBJECTIVES:

Children sing "Higher Than a House"
Children continue to demonstrate an awareness of high and low through movement
Children experiment with strumming the autoharp

MATERIALS:

"Higher Than a House"--song
Autoharp with rubber doorstopper

PROCEDURES:

Review song "Higher Than a House"
Review things that are high and low
Sing song
Sing and show high and low by standing tall or bending over
Add autoharp as all sing
Have children practice motion required for strumming autoharp (will need to check for right hands)
Have children pretend to strum everytime teacher does (Teacher needs to strum on beat)
One child at a time strums autoharp with doorstopper while teacher pushes chord buttons
Each child should have a turn strumming autoharp while others continue to practice

LESSON FIFTEEN

OBJECTIVES:

Children sing familiar songs
Children strum autoharp

MATERIALS:

Songs:

Higher Than a House
Noble Duke of York
Clang, Clang
Eensy Weensy Spider

Autoharp with rubber doorstopper

PROCEDURES:

Review "Higher Than a House"
Sing "Higher Than a House" and show high and low motions
Practice strumming motions
Children again take turns strumming the autoharp
Each child has several turns strumming using any of the songs from the materials list.

LESSON SIXTEEN

OBJECTIVES:

- Children listen to recording
- Children listen to story
- Children create movements to accompany story and recording

MATERIALS:

- "Ballet of Unhatched Chicks"
  from Mussorgsky PICTURES AT AN EXHIBITION
  The Music Connection (1994) Grade 2 CD 2 #6.
- Pictures to accompany story (teacher made)
- Story (attached)
- Picture of baby chicken
- "My Thumbs Are Starting to Wiggle"--song

PROCEDURES:

- Look at pictures of baby chickens and other spring time things
- Discuss pictures
- Listen to "Ballet of Unhatched Chicks" as teacher tells story while using pictures
- Talk about
- Repeat listening with story
- If time, have children act out story
- If limited time, sing "My Thumbs Are Starting to Wiggle" while children do what song says

LESSON SEVENTEEN

OBJECTIVES:

Children recognize "Ballet of Unhatched Chicks" music
Children act out story
Children listen to song and do what it says
Children sing a new song

MATERIALS:

"Ballet of Unhatched Chicks"
from Mussorgsky PICTURES AT AN EXHIBITION,
The Music Connection (1994), Grade 2, CD 2, #6
"My Thumbs Are Starting to Wiggle"--song
"Shake My Sillies Out"--song

PROCEDURES:

Listen to "Ballet of Unhatched Chicks"
Identify
Recall story
Listen with pictures
Listen and act out
Stand and do what song says as teacher sings "My Thumbs Are Starting to Wiggle"
Repeat
Listen to new song--"Shake My Sillies Out"
What is song about?
Listen again
Sing "Shake, shake, shake" on the two pitch patterns (may result in only one pitch rather than actual stepwise pitch change)
Teacher sings rest of song while children join on "Shake, shake, shake"
Repeat
Lie down and close eyes as imagine chicken in the story while listening to "Ballet of Unhatched Chicks" once more

LESSON EIGHTEEN

OBJECTIVES:

Children sing new song
Children do actions of song at appropriate time

MATERIALS:

"Shake My Sillies Out"--song and book
"My Thumb Is Starting to Wiggle"--song

PROCEDURES:

Review "My Thumb"--song
Review use of thumbs, hands, arms, legs, body
Children do all the motions while teacher sings
Remind of another song that talks about moving
Teacher sings "Shake My Sillies Out"
Review "Shake, shake, shake" that children learned last time
Teacher sings again with children joining on part they know
Teacher tells story with picture book
Children listen for what happens besides shake
Review children's part
Change to jiggle, jump, yawn
Insert these changes into song in correct order
Sing first verse once more

LESSON NINETEEN

OBJECTIVES:

Children sing "Shake My Sillies Out"
Children add appropriate motions

MATERIALS:

"Shake My Sillies Out"--song and book
April Showers

PROCEDURES:

Review song "Shake My Sillies Out"
All sing
Add other verses
Look at book and sing each verse when it comes in story
Children stand and demonstrate shake, jiggle, jump, yawn
What is different about way we sing "Yawn" verse (slower)
Using book, repeat story with children moving to each verse
Repeat
Ask children what month this is (April)
If time, begin with the recurring chant from book *April Showers*

LESSON TWENTY

OBJECTIVES:

Children chant refrain from *April Showers*
Children sing refrain from *April Showers*

MATERIALS:

Shannon, G. (1995). *April Showers*. (Aruego, J. and Dewey, A. illustrators.) N.Y.: Greenwillow Books.
Melody for refrain (teacher composed)

PROCEDURES:

What month is this?
Book *April Showers* has song in it
Review refrain from last time
When this is comfortable, teacher sings first phrase
Repeat and children echo
Teach melody of refrain through echo adding one phrase at a time until all is learned
Sing entire refrain several times
Keep beat with patsch while singing
Look at picture book
Teacher reads entire story while children join in singing refrain
Sing refrain once more.

LESSON TWENTY-ONE

OBJECTIVES:

Children sing refrain from *April Showers*
Children improvise dance movements for story
Children experiment with playing log drum

MATERIALS:

April Showers--book
Melody for refrain
Log drum with mallets (or bongos)
Hat for teacher to wear

PROCEDURES:

Review refrain from *April Showers*
Book has refrain three times so sing, three times
Teacher reads story with picture book while children join in on singing refrain
Repeat, with teacher adding log drum accompaniment
Since this is "hat" day, if have on blue hat (red hat, cap, etc) show how you think frogs danced
Use log drum and have other children sing refrain while each group of children dance
(Make sure each child has a turn at dancing)
If time, children experiment with playing log drum

LESSON TWENTY-TWO

OBJECTIVES:

Children sing refrain to "April Showers"
Children keep steady beat with *April Showers*
Children sing "Teddy Bear, Teddy Bear"
Children do motions to "Teddy Bear, Teddy Bear"

MATERIALS:

April Showers--book and song
Teddy Bear, Teddy Bear--book and song
Log drum with mallets

PROCEDURES:

Review refrain to "April Showers"
Keeping steady beat, children listen to teacher read story and join in on singing refrain.
Each child sings refrain individually, then plays log drum while everyone sings refrain together. (some will choose not to sing, but all will be given the opportunity)
Show book *Teddy Bear, Teddy Bear*
Review story to see what bear does
Teacher sings song
Children echo "Teddy Bear, Teddy Bear" phrase
As teacher sings song, children join on "Teddy Bear, Teddy Bear" phrase
Repeat
Children do motions as song indicates while teacher sings
Teacher asks what favorite things from music lessons are (for use in final lesson)
All sing "Teddy Bear, Teddy Bear" one more time with motions.

LESSON TWENTY-THREE

OBJECTIVES:

- Children sing songs from earlier lessons
- Children play autoharp
- Children demonstrate ability to keep steady beat with body percussion and with foam balls
- Children play resonator bells

MATERIALS:

- Autoharp and rubber doorstopper
- Resonator bells (G, A, B, C) and mallets
- Slinkies
- Foam balls
- *Brown Bear, Brown Bear*
- *Old King Cole*
- "Noble Duke of York"
- "Clang, Clang"
- "Higher Than a House"

PROCEDURES:

- Sing "Brown Bear, Brown Bear" checking pitch matching of children
- Repeat chant "Old King Cole" keeping beat with patsch
- Repeat "Old King Cole" keeping beat with foam balls (Continue until all children have had a chance to use a ball--will take three or four times)
- Sing "Noble Duke of York"
- Repeat with each child having a turn playing resonator bells
- Review "Clang, Clang" and "Higher Than a House"
- Using autoharp accompaniment, sing "Noble Duke of York," "Clang Clang," and "Higher Than a House"
- Children take turns strumming autoharp while others sing
- All sing "Higher Than a House" one more time with teacher playing autoharp accompaniment

LESSON PLAN MATERIALS

BOOKS

Allender, D. (Ill.). (1987). *Shake my sillies out: Raffi songs to read*. NY: Crown Publishers.

Burke, D. O. (Ill.). (1994). *Old King Cole: A rhyme-along book*. Singapore: Lowele House Juvenile.

Hague, M. (Ill.). (1993). *Teddy Bear, Teddy Bear: A classic action rhyme*. NY: Morrow Junior Books.

Martin, B., Jr. (1992). *Brown Bear, Brown Bear, What do you see*. NY: Henry Holt & Co.

Munsch, R. (1985). *Mortimer*. Toronto: Annick Press Ltd.

Shannon, G. (1995). *April showers*. NY: Greenwillow Books.

Trapani, I. (Ill.). (1993). *The itsy bitsy spider*. Boston: Whispering Coyote Press.

INSTRUMENTS AND EQUIPMENT

Autoharp and rubber doorstopper
Foam balls
Hand drum
Log drum and mallet
Resonator bells and mallets
Slinkies
Step bells and mallet
Tape/CD player

RECORDINGS

Ballet of Unhatched Chicks from PICTURES AT AN EXHIBITION, *The Music Connection* (Silver Burdett-Ginn, 1994) Grade 2, CD 2, #6.

Footlifter *The Music Connection* (Silver Burdett-Ginn, 1994) Grade 1, CD 6, #38.

Teddy Bear March *Small Player*, Bowmar Records

SONGS AND RHYMES

April Showers--teacher composed
Brown Bear, Brown Bear--teacher composed
Clang, Clang--Linda Gerber, used by permission
Eensy, Weensy, Spider--traditional
Good Morning--song class already knew
Higher Than a House--*Making Music Your Own* (1968) Silver Burdett, Grade 1

My Thumbs Are Starting to Wiggle--*Share the Music* (1995) Macmillan/McGraw-Hill, K
Noble Duke of York--*The Music Connection* (1995) Silver Burdett-Ginn, Book 1
Old King Cole--traditional
Shake My Sillies Out--Raffi
Teddy Bear, Teddy Bear--traditional

OTHER

Hat
Name tags
Pictures of bear, duck, and baby chick
Story to accompany "Ballet of Unhatched Chicks"
Stuffed teddy bear
Teacher made pictures to accompany "Ballet of Unhatched Chicks"
Vocal direction charts

APPENDIX D

REPRESENTATIVE TRANSCRIPTS

REPRESENTATIVE TRANSCRIPTS

Appendix D contains working examples of transcriptions of language samples from the study. These transcriptions were specifically selected to represent low, medium, and high scoring samples of both pretest and posttest.

Following is a scoring example:

[ ] = maze
[1] = one utterance (or word) in a maze
3 = three utterances or words

[1] 1	[um] bears
1	Bears
3	They're dancing
6	He's going to go outside
3	He's walking
[1] 3	[um] walking in mud
[1] 2	[um] gets muddy
4	put his pajamas on
[1/2] 1	[pa-] pajamas

9 communication units
24 utterances in units (does not include mazes)
4 mazes
3.5 utterances in mazes

24 utterances divided by 9 units = 2.6667 utterances per unit or mean length of utterance (MLU)

24 utterances plus 3.5 utterances in mazes = 27.5 total utterances

EXAMPLE 1 PRETEST LOW SCORE

[1] 1	[um] bears
1	Bears
3	They're dancing
6	He's going to go outside
3	He's walking
[1] 3	[um] walking in mud
[1] 2	[um] gets muddy
1	umhum
4	looking at a snail
2	his balls
[1] 3	[um] he's talking
3	want to play
3	want to play
6	he's stepping in the den
5	he's got his on
[1] 3	[um] he's standing
3	got muddy feet
2	his mom
2	going upstairs
4	put his pajamas on
[½] 1	[pa-] pajamas
6	he's turning the light on
3	the moon, stars
1	ducks
5	he's going to sleep

1	cats
1	black
[½] 1	[mi-] mice
1	envelope
2	some money
6	he's looking at some toys
7	he's says he has own stuff
1	toys
1	uhhuh
[1] 1	[um] dolls
1	mouse
1	drum
1	balls
1	blue
1	green
1	stars
1	no
1	yellow
1	green
4	he got a mouse
5	he's dancing with it
1	oh

1	drum
[/] 2	[um] a mouse
1	bubbles
3	some big bubbles
6	he's riding in a car
2	a helmet
4 [:]	to his running on [on]
3	the mouse is
4	her shoe fell off
2	the mouse
[/] 2 [/]	[um] that's [ah]
4	I don't know
1	boxes
3	this pops up
2	a rabbit
9	he's playing with all his things on ground
6	dropped his bubbles on the ground
[/] 3	[um] going get that
7 [/] 5	he gets a cat out of this [this] thing that on the ground
1	umhum
3	hugging the cat
1	umhum

192 utterances in units 13 utterances in mazes

69 units

192 ÷ 69 = 2.7826 MLU

192 ÷ 13 = 205 total utterance

EXAMPLE 2 POSTTEST LOW SCORE

9	and she put it down in that black hole
4	to find the diamond
5	and here's the cave
5	and there's the water
5	and here's the diamond
8	that's Medusa who kept the teddy bear
7	Jeanette can you take this to John
4	what's this book
1	no
1	no
1	umhuh
1	uk
2	a dinosaur
[1] 5	[um] they come out of eggs
[2] 4	[um they] they slack their tails
2	long neck
1	tyranosaurus
2	long head
3	and long neck
4	what's this one
1	tyranosaurus
2	tyranosaurus rex
4	because I just picture
5	and I see his teeth
[1] 7	[um] I don't know what that one
1	ecky
1	umhuh
4	because he's mean
6	he's gonna slap him
5	here's a big one
[2] 5	[he's] he's a sharp tooth
3	he eats anything
3	he eats hair
3	he eats clothes
3	he eats this
4	he eats this skin
11	when bites skin he can see his blood and his bones
[1] 4	[um] I don't know
[1] 1	[uh] berry
2	long neck
6	he's gona slap him
4	they're running away
[2] 4	[um um] I don't know
1	tricerotops
5	horns to kill everything with
3	1, 2, 3
3	turn the page
2	meat eater
3	what's that

4 I don't know
1 crocodile
[1] 1 [um] eating
[1] 3 [uh] sitting on him
4 lifting up a rock
6 that's a little tyranosaurus rex
2 a shadow
2 long neck
1 babies
5 1, 2, 3, 4, 5
7 I have 5 butterflies in a net
[1] 2 [um] orange black
7 here then I can turn the page
3 he's eating
2 a plant
1 [1] 2 eek [um] got wet
4 hey what's that
3 frog on him
5 jumped jumped jumped jumped jumped
[2] 1 [ah um] duckie
4 that's a duckie
4 ooh big fat duckie
1 rhino
8 I don't know what that one is
3 1, 2, 3
5 that can be the bushes
[1] 4 [uh] what's that one
2 plant eater
1 pointers
7 he has 1, 2, 3, 4, 4
3 bug on it
3 and got it
[1] 4 [uh] I don't know
[1] 1 [ah] yes
4 look all the dinosaurs
2 eating eating
4 all of the dinosaurs
3 they are grown
4 the babies have grown
2 the end
4 now do another book
1 sleeping

5 let's do another book
5 no it's about cats
1 no
3 red and orange
1 no
[2] 6 [um um] why can't we read it
2 a mouse

[1] 2 [ah] a shadow
[1] 1 [hm] cat
3 he's cool
5 that's his tail pointed
2 run away
[1] 7 [got] gots his car and gonna fight
4 he did this too
8 ooh he's gonna paint on him
4 train on it's tail
4 he's grabbing toys
8 he's take a quick color quick quick
3 turn the page
3 a cat eye
1 reading
1 pens
1 plants
2 eating plants
4 got a toy mouse
3 turn turn turn
2 turn it
4 and it goes toooooo
1 sleeping
[1] 4 [um] doing his own bed
2 the end
2 a duckie
3 a little duckie
1 yep
1 eating
1 umhuh
1 sitting
[4] 1 [ah um ah um] playing
1 no
1 playing
2 a ball
1 kicking
1 trash
[1] 1 [um] dinneries
3 tail and nose
5 time to turn this page
5 oh oh oh his duckie
3 running after him
1 maybe
1 up
1 up
5 what is he doing there
1 afraid
3 what's that
2 another cat
1 running
1 doggie
1 pulling

1 tail
6 why's he pulling the tail
7 so he won't get the mouse
7 cause he wants to get the mouse
3 oh look it
3 they're friends
2 look it
4 they're friends now
1 cat
1 doggie
[1] 1 [ah] yeah
[1] 2 [um] going home
1 cat
6 why is the cat going home
[1] 4 [uh] I don't know
7 so the dog won't get him
3 why is it
6 why is this another road there
15 is this a road to go up and that's a road to go down
29 oh why didn't they put a sign on those hills saying this is the only hill to go up and this is the only hill that goes down
[1] 2 [uh] both ways
6 you can go up and down
[2] 6 [um um] just trying to go to sleep
3 and the mouse
5 why's there two eyes
4 dog's eye mouse eye
6 why have his dog in there
4 I don't know
4 maybe a mommy mouse
3 turn the page
2 the end
[½] 1 [wha-] playing
6 he's playing a checker game
4 why he's playing
4 he's playing can
2 giving food
1 playing
1 working
3 they're watching
[2] 4 [he's] he's watching them
7 he's seeing what they're doing
7 he's seeing what they're doing
5 why's he run naked
5 why's he run naked
6 and she's not very naked
11 yeah but he gonna gots a bowtie and a hat
2 the end

3.5459 MLU
733.5 total

695 utterances in units 196 units 38½ utterances mazes

EXAMPLE 3 PRETEST MEDIUM SCORE

5	I had my birthday already
1	umhum
[1] 3	[uh] this is dirty
4	yeah a window screen
[1] 2	[ah] a bear
4	yes a little one
2	little bears
9	but they're bigger but they're still little
1	dancing
3	going to sleep
5	and putting the foots up
3	is that foots
[] 2 [2] 3	[uh] he's [he's] going to out
4	he's going out
[1] 2	[um] his mother
[] 2 [2] 3	[uh] he's [he's] stepping in mud
6	he can't step in mud
6	maybe Miss Tress read our books
6	that's sounds good to do
6	why'd you read this book
2	a bear
[1] 5	[um] you get your foot mud
1	no
3 [3] 3	she's going [she's going] to be mad
6	oh oh can't touch that
4	it's a worm
10	you can't touch worms cause she has stingy things
4	it'll sting you
4 [1] 5	he's going to [uh] he's touching the ground
[] 4	[uh] he's making tracks
2	right there
1	outside
4	I'm turn it
[1] 2	[ah ah] a fence
6	I'm gonna turn it
5	what's your name again
5	I don't want that
3	someone else did
[1] 3	[ah] she's happy
3	what's that
2	a clock
[] 2	[uh] mud footprint
1 [1] 6	I [I] want to turn the page now
1	yeah
[] 1	[um] no
6	now she don't like it
4	cause I just do
7	now he's going go to sleep
[2] 6	[uh um] walking down the stairs I think

huh
he's sleeping
I said sleeping
no he's in his [he's in] a tree
wants his bed [in-] inside
yeah I'm silly
oh no where is he now
he's thinking now
I don't know
do you
a [a] light bulb and ducks
[ah] they're on this
[ah] umhum
[ah] the moon
he's putting on the light
he can put on lights while the moon is sleeping
I [I] don't know what it is
I don't know
I want to turn the page
he went to sleep in his bed
she's [she's] giving him a kiss
the end
that's the end

kitty cats
a black cat
mices on skates
I don't know
nothing
are these for boys and girls
unhuh
I don't know what his things at
unhuh
unhuh
now a machine
a gray machine
a red thing
a red ball
bouncing
[uh] has spots, circles, circles, circles, circles
I don't know what they are
do you know what they are
what
a [a] drum
goes bing bing bing bing bing
no I lost my drum
a doll
bouncing a ball
bouncing two balls

4 got a red ball
[1] 3 [uh] green and blue
4 I'm hitting it
3 don't know
3 a little ball
1 unhuh
6 I like the balls I have
[1] 4 [uh] I don't know
1[1] 2 I [I] have white
4 I have one bear
7 but I don't know anything else
3 that's all
5 did she put on skates
6 they can skate by theirselves right
1 yeah
3 but they stop
6 you have to do it again
3 playing a drum
1 yeah
[1] 2 [um] blowing bubbles
1 yeah
4 little and a motorcycle
1 no
1 fast
2 a helmet
11 you pull this down so you can see where you going
2 you glasses
5 cause you just have to
5 cats can't wear helmets
7 not sposed to let dogs have any
7 why don't you have a watch
8 why do you have that watch right there
[1]2[1] 6 [ah] will you [will] was then that turning thing come
5 why you turn it for
8 so it can go tick tock tick tock
[1] 4 [uh] and to work hard
3 shoe came off
3 a robot machine
3 a robot machine
7 he's going cut his tail off
4 better not touch it
[1] 7 [uh] he makes it cut off his tail
7 he gets him into the sharp one
2 box things
1[1] 2 a [a] jack machine
7 oh when you push those up too
5 ooh a grasshopper yuk that
2 ooh spill
2[1] 3 he's [he] got a baby
4 he got a lot
4 see what's in

5 he spilled it all down
8 and now he's got a baby cat
9 ooh gross I don't know what it is
6 he's got a baby cat
4 and he likes it
2 the end
3 no more books
5 I gotta go back
5 I gotta go back

653 utterances in units 45½ utterances in mazes
157 units
4.1656 MLU 698.5 total utterances

EXAMPLE 4 POSTTEST MEDIUM SCORE

1	what
1	Tuesday
3	that's dinosaurus
1	oh
[2] 6	[uh um] look how big his teeth are
5	that's a meat eater
5	that's a plant eater
5	that's tricerotops big horn
11	look he's holding up a rock with his big foot
6	look how big that one is
4 [2] 2	he's bigger than [um um] long neck
5	what's all that stuff
4	I don't know
4	I don't know
4	look at that one
1	stegosaurus
7	I know pleasuasaurus is a slender dinosaur
4	I don't know
1	bad
6	cause he's a meat eater
11	that's a meat eater too cause it's the baby
[1] 5	[ah] trying to get that one
7	no he's looking back like that
[1] 5	[uh] going to eat that one
6	and he's bouncing a ball
1	yes
3	eat that one
1	yes
10	he can take a bite of his that guy's leg
(1) 3	[um] swing his tail
[1] 4	[ah] I don't know
3 [3] 4	purce tricerotypes is [um one is] a tricerotops without horns
3	that's tricerotops
[1] 1	[um] 3
14	has 2 on his head and the third on the end of his nose
4	fights the tyranosaurus rex
4	I don't know
4	look at his babies
5	oh I don't know
1	see those the meat eaters go faster on land
3 [2] 5	the plant eaters [go faster] go faster in the water
8	look some of his teeth are pointing down
8	and some of his teeth are pointing up
4	I don't know
3	maybe a alligator
2	right there
4	I don't know
1	yes

no
[ah] picking up the rock
and look at there's his teeth
[that's] that's a different dinosaur's teeth
cause look at how big [that] that is
look how big that is
I don't know
he looking back
[um uh uh] long neck
tail
or a brontosaurus
1, 2, 3, 4, 5
look that guy's sliding down his tail
yeah
yes
laying down
a tree
I don't know
yes
that's to scare that guy
I don't know
yes
a frog
I don't know
climbed up here and climbed up there
or it could go climb up his leg like climb on his tail
climb on his leg climb like this up there
that guy's pretty big
[um] yes
1, 2, 3
eat that one
that one doesn't have sharp teeth
that one does
that one's a meat eater
that one's a plant eater cause he's by the plants
he's not
that's a meat eater
that's a plant eater
[um] I don't know
yes
spikes
4
2 and 2 is 4
[ah um] I don't know
that one's a plant eater
that one's a plant eater
that one's a meat eater
and that one's a plant eater
that one's a meat eater
and that one's a plant eater
[ah] a plant eater because they're eating plants

but that guy isn't has a bone in his mouth
and you know what
tyranosaurus rex can break bones with his teeth
he does duck in his teeth
the end
[uh] sleeping
another dinosaur book
I don't know
a cat
a cat
[uh] orange and red
no
a mouse
[that's] that's the shadow of the cat
that's his claws
what's this
that's a couch
no that's [a] the cat because the claws
[um] trying to catch the cat with his claws
I don't know
go like that
that's his tail
that's the cat's tail
I don't know
it's a rectangle
[uh] I don't know
painting the doctor
he's holding
that's his other arm holding [hi holding his] the car
that's his eye
that's the cat's eye
the cat's eye
peeking
no
that guy's looking slick
no
looking at a book
look it all the pages came out of the book
and the cat [the cat] caught the toy mouse
cause it has that thing
[ah] twister thing so the mouse can go
fishes
he's in his bed
he's holding his duck
Thursday
what place was it on did he do
did he do that
then he did that
then he did that
then he did that
then he did that then

1 nose
6 he's jumping on the numbers
10 look 1, 2, 3, 4, 5, 6, 7, 8, 9
[/] 3 [um] bouncing the ball
5 he's kicking a can
2 his tail
2 a nose
4 there's the cat
5 trying to get that mouse
1 yes
7 he can go back into his hole
3 he went outside
5 he went across the road
8 and then the cat went across the road
4 I don't know
9 look she's going to go back to there
10 cause the cat won't because it's too high
12 no he'll just hold on to there with his own claws
2[/] 2 and he [and] go there
[/] 2 [uh] another cat
4 see he's going
5 he goes on the road
5 the mouse caught the cat
4 I don't know
2 his tail
[/] 9 and [that] the cat's going to his mother and grandma
6 or maybe that's a dog
3 dogs chase cats
1 cat
4 I don't know
2 look here
4 he's going back
3 he came from
10 there he goes all the way back to his home
5 they're watching this mouse
4 that's a dog
7 and look how long his ears are
5 they're long not up
7 there are two mouses in the hole
5 cause there're 2 eyes
5 those 2 are watching TV
[2] 3 [those are] those 2 are
4 I don't know
3 they're dancing
5 yeah that's the end
4 got a new book

951 utterances in units 45 utterances in mazes
195 units
4.6205 MLU 946 total utterance

EXAMPLE 5 PRETEST HIGH SCORE

5	I'm not 5 yet
1	umhum
1	umhum
[1] 2 [2] 2	[um] it's [it's] about bears
2	little bear
[1] 6	[um] one's putting his leg up
3 [1] 4	and one's [um] getting on the grass
5	one's going like this
5 [1]	one's going like that [um]
[3] 6	[he he's] he's walking out the door
7	and his mother's going like that
5	and the door's open
1	umhum
[2] 7	[um ah] he's playing in some black stuff
1 [1] 3	and [um] he's walking
4	the gate's open
[1] 4	[um] it gets on him
11	his foot got in it and came off on his shoes
6	and he's stomping in it
1	umhum
2 [1] 5	he's [um] looking at a lady bug
[1] 9	[um] I caught a lady bug in my bug collection
1	umhum
[1] 11	[um] I kept it for a little while and let it go
1	umhum
[1] 2 [1] 3	[um] he's [ah] saying good day
7	and he's walking inside the house
9	and he's getting mud all over the floor
5	oh I don't know
[1] 3	[um] she's smiling
18	and he's going like that even though mud's on the floor but she's not mad
5	looks like she's happy
[1] 5	[um] she's holding a mop
7	and she's going mop the floor
1 [1] 5	and [um] he's climbing the stairs
[1] 4	[um] upstairs to his room
2 [3] 5 [2] 3	he's [um he's] going upstairs cause he and [and um] in his bed
4	has blue on it
3 [1] 5	and he's [um] closing his eyes and smiling
[1] 6	[um] he's turning out the light
7	and he's going put this on
6	his hand is on the ball
4	and this hand too
[1] 4 [1] 1	[um] and the mom is [is] smiling
[1] 6	[um]his mother's tucking him in
6	and he's going to bed

what's some [um] she's [she's uh] and also [um] they have a picture with a bunny rabbit on it

umhum

[um] there's all kinds of bears

so them all small ones

umhum

[um] there's a cat [um] turning some mice on

[um] you turn the little thing

and she's [um] giving a [a] letter to her friend

and also [um] the letter got him [um] a birthday penny

and she's walking her penny up to him

and she gave it to

and she looks at her doll

she looks at her toys and wonders if there's anything else she wants to play with

[um] a dolly and a little spot and another spot and a drum and balls

and she's playing with a ball

and it has stars on it

and it's also got it

and some of them are stripes but some aren't

and some have dots

[um] white and blue and white and [um] yellow and white and red and white and green and white

a net

and she's winding up some mice

and cause she's playing with them

and she's beating on it and stomping

and the [the] mouse is behind the big box

[um] a drum

and she's blowing bubbles in [a in] her own red [and um] bottle to hold the bubbles in

and the top is red

and she's playing and [and] with lots of bubbles

and a mouse

and [ah] she's driving [ah] the car with the helmet on

and [um] she's setting down

and the car is red

[um] slow

[um] she's dancing with a dolly

and her shoe came off

and so the other shoe's still on

and I see [ah] some

and a mouse

[um] she's playing with a robot

and it picked up a mice mouse

I have mouses in my house but those kind carry around diseases

umhuh my cat gets them

[1] 6 [um] I think it's a tomcat
(2) 2 [um um] the mouse
2[1]6[0]6 and she [she] has a rabbit jack-in-the-box and a [a] worm jack-in-the-box and just a jack-in-the-box
3[1]4 and she's [um] playing with the jack-in-the-box
5[0] and she has everyone of [um]
4 she's taking that
6 and a mouse is upside down
9 and there's another mouse three mouses in there
24 and there's robot and balls and the drum and the mice and the dolly and the car and the balls and the jack-in-the-box
2 oh look
1 maybe
7 and it's a dolly kitty cat
2 in there
1[1]3 the [the] dolly kitty cat
7 and she's hugging it and smiling
1 umhum
14 and also she's looking at the jack-in-the-box like she did at the page

677 utterances in units 70 utterances in mazes
106 units
6.3868 MLU 747 total utterance

EXAMPLE 6 POSTTEST HIGH SCORE

[1] 1 [1] 9 [ah] t-rex [um] it's teeth open his mouth and a little dinosaur
5 and he's growing up
5 cause it has sharp teeth
[1] 4 [um] trying to find him
[1] 6 [ah] he's trying to eat him
5 and he's very big
6 [1] 2 and he's trying to eat [uh] a blueberry
[1] 5 [1] 11 [um] he's trying to scare [uh] another dinosaur but he's not as big as that dinosaur
1 umhuh
1 no
[1] 4 [1] 16 [um] they're trying to [ah] run from something but he's walking cause he's very big but they're running
4 he's going slow
4 also he's smiling
4 wish he kinda walking
[1] 8 [um] he's trying to look for some eating
6 and he's sitting on dinosaurs
3 oh not good
[1] 1 [um] meat
1 umhuh
[1] 7 [um] he sees a shadow right by him
3 [1] 28 and he's [um] waiting like if he came over here and he would and he did and he was looking that way instead of this way and he would smash him
10 and he sees the shadow that has teeth on it
6 and he's trying to hide
[1] 9 [ah] he looks like he's ready to smash him
2 a stone
[3] 6 [he's um] he probably got rust in them
[1] 8 [his] and he ran back home to his mom
5 and the mom found him
5 1, 2, 3, 4, 5
[5] 4 [he look that guy looks] he was small before
7 and he looks like he just dad
4 [1] 7 [1] 3 [1] 3 and his dad was [ah] small before but he ate too much [um] things that he [ah] got very fat
15 I think he's trying to and like pretend that it's a smoking thing
7 he's the one that was scared
4 he's kinda small
6 and this is kinda little bigger
[1] 6 [um] he's trying to eat something
2 [1] 4 and someone [um] hid under the mud
6 and then he came back up
9 and he looks like he has spikes on him
6 and he got him all dirty

10 he looks like he's been in the swamp too
4 there's a frog
6 with a frog living in it
[1] 7 [um] he looks like he was polkasaurus before
10 1 [1] 4 and [ah] he [um] killed too much things
5 and they looked too good
5 he could hardly eat them
4 that he grew big
9 and he wanted to be act like a t-rex
9 and he started to act like a mean polkasaurus
1 [1] 5 [1] 1 and [um] this one used to be [um] kind
7 [1] 3 it's kinda like a t-rex but [um] it's not
12 [3] 1 and it looks like it's been about the size of a [of a a] bush
5 and it grew too big
10 and it had little babies almost the size of her
8 and he's trying to hide from him
12 and he looks like he could sneak up and eat her babies
3 1, 2, 3
[1] 3 [1] 2 [3] 12 [um] a polkasaurus trying [um] a dinosaur [trying to find] trying to make friends with not the same kind that he is
1 [1] 3 and [um] his sharp things
5 and he's that kind
10 [1] 9 and they looked like they were asking each other to [um] have a fight but not really kill each other
9 they were just pretending to have a good fight
5 and like they were babies
5 it four spikes on it
[1] 4 [1] 2 [um] her trying to eat [um] that bird
9 and these guys are trying to eat some grass
[4] 5 [and it's trying] and it's eating leaves
12 and I don't know what that little guy's up to
6 and they're all doing something
7 and some of them have their children
7 and the mom and dad are eating
1 [1] 6 and [um] the t-rexs are chewing on bones
9 and she's teaching her baby how to eat
13 he looks like he's going to eat the words on the page
8 yeah and this one is about to too
[2] 7 [7] 6 [ah um] I see all kinds of dinosaurs that [um] used to be around the world
7 and they're all kind of different
1 no

5 a cat trying to hide
1 [2] 4 and [they he] this is a mouse
6 cause it lives in a hole

no it looks like it has a thing that is supposed to go in the ground but they're kind of orange and they're on a cat

and these look like little hairs with stripes

a mouse's tail

[um] he's peeking out of his home

and he sees a shadow covering the wall

that looks like a cat

and he's getting [ah and ah]

the cat tried to get in there [um] but he [ah] burst

I think he burst in the wall

and then [ah] he must have reached it

and he must have gotten the mouses home

and he must have written another place cause these are kind of bigger than him

the cat's trying to reach for him

[um] he painted it to pretend but [um] to pretend like if the cat bursts open he would think it's just [ah um] place to [ah he would think it's just a place] that they were working on and that if [and if] he saw the painting he might think they would paint in his eye and it would hurt

[ah] cheese

well maybe it was their snack

and [ah] it was on the floor

and she [um] thought it was a mouse so she grabbed it

[um] they were lining it up

and I think [um] they were [um] inside the house now

and they were like on outside their yard

and [the if] these people lived in this house had a porch

and on the cliff [um] beside the wall [um] the mouses hole was there

and they were outside

and there was like this stairs

and [ah] they had their very own porch

and their car was on this [ah] place but their car could like [um] dump real far because [um] it's way down below

and they're trying to drive

and the cat [um] thought it was [um] another mouse

and he grabbed it

it was to keep [ah] trying to think that their things are mouses

and like this is their [um] art place and their special place

and a cat's eye is looking

and it kind of looks like a door but [um] they have their very own special toy

and they have flowers in it

and [ah] they're trying to work on something

6 and it looks like their school
[4] 6 [um they're um] Mr. Fleck had a toy bear
1[1]2[1]9 and [um] they're [um] real book mouses they love to play with sometimes
13 he must have grabbed it to think it was a real real mouse
[1] 6 [um] it's a wind up toy
10 and that's the thing that you wind him up
4 and they rolled around
22 and they get their place all messy cause they have their skates and their tapes everywhere and their flashlight and their scarf
5 and it looks all messy
1 no
[1] 16 [um] he's holding a duck and going outside and put his hand up and yelling something
[1] 5 [um] he was kicking a can
6 and he was bouncing a ball
8 and he was playing hopscotch and playing that
3[1]4 and he was [ah] playing a movie thing
9 and he was playing it all with his duck
[1] 3 [um] he was outside
6 and the cat had hit him
7 then he jumped trying to get him
2 eat him
[1] 18 [um] he went out of the house and ran so far he must have got in a spooky place
8 and the cat was keeping on following him
7 he's got his duck with him
1[2] 10 and [he and] I think he'll never let go of his duck
1 umhuh
7[1] 5 they're chasing out so far that [um] he came to a cliff
1[1] 25 and [ah] he went this way way all the way here and here and all the way to here but I don't know what's that
[1] 14 [um] the cat's gonna get him cause he's far out a cliff
14 and he must have dropped his duck because I don't see it anywhere
[2] 11 [or maybe] or maybe it might be on the other side of him
8 oh another cat trying to chase a mouse
4 he holded his duck
6 and then he hold his thing
6 and there's a puppy dog
3 chase got him
12 and the first time we saw him it had spots on it
4 but it looks littler
12 she could eat him too cause he's littler and she bigger

2 the cat
[1] 5 [um] she went around and around
and she [um] has to be not scared because [ah because]
2[]6[2]3 she's bigger
and [um] he's covering her eyes and [make and and]
1[]6[3]2[]8[]4 trying to [um] do everything to her to make her be [um] this way I think
9 she's covering her eyes and beating her up
6 and he's yelling at her
1 maybe
5 it was his mouse friend
6 oh the sun's going down
6 and the cat is running away
7 and he's still gots his duck
11[2] if he though I think he's looking at him sadly [to ah]
and I think he's trying to [um] say [um] if they could
7[][]14 come and he would get them all the cheese he want
1 umhum
and they're not going to cause [um] I think that [um]
7[]3[]5[][]16 they're doing things and [ah] that [um] they made the cat do it to bring it to their doorstep but not eat him
or else they're [um] calling the dog and the cat
4[]9[4]6 doesn't know [that um there's] that's not a real dog
1[2]16 and [um and] then he brought it to them to make sure the dog doesn't get him again
4[]4 and then they could [um] get their own snacks

1487 utterances in units 143 utterances in mazes
175 units
8.4971 MLU 1630 total utterance